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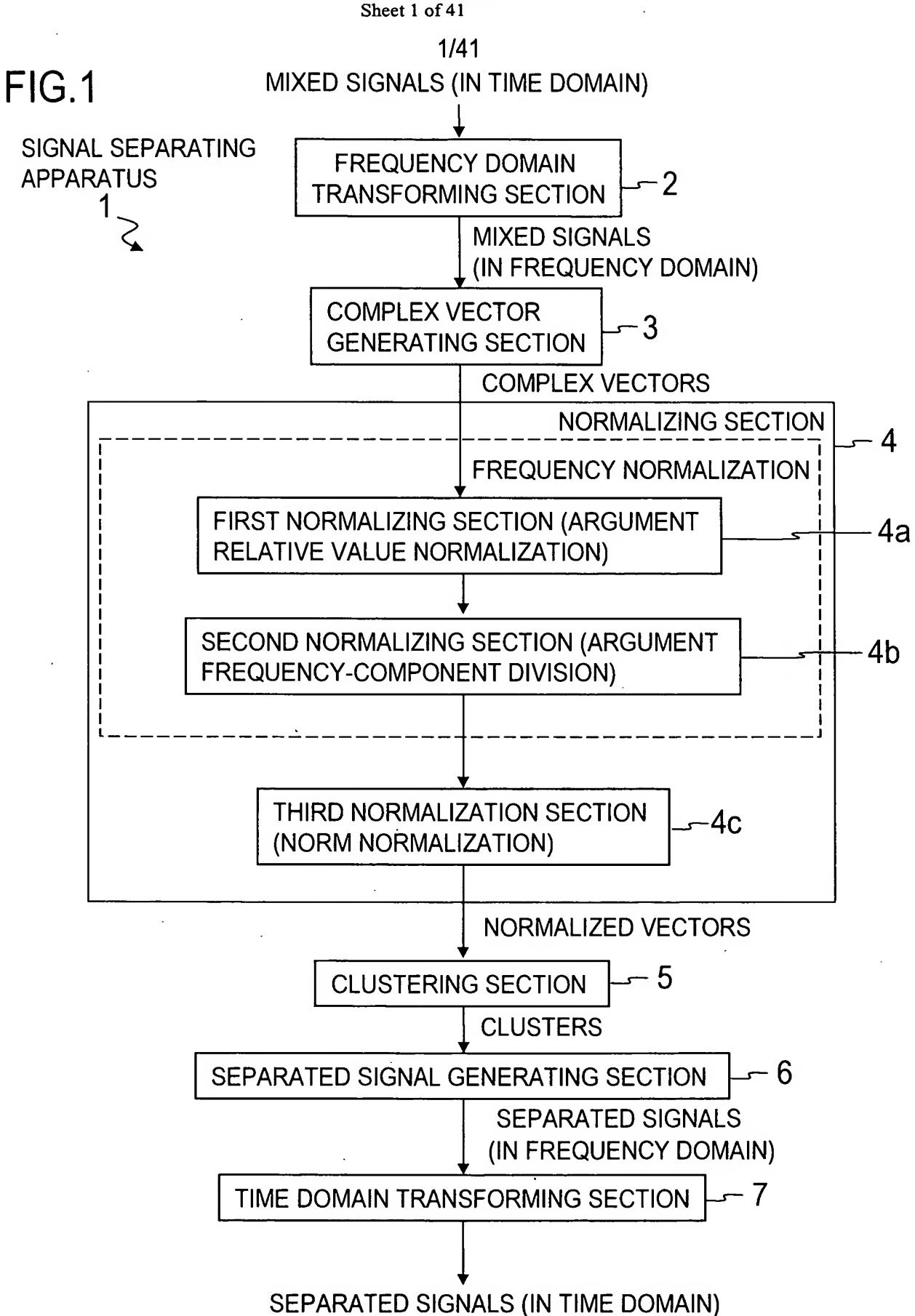
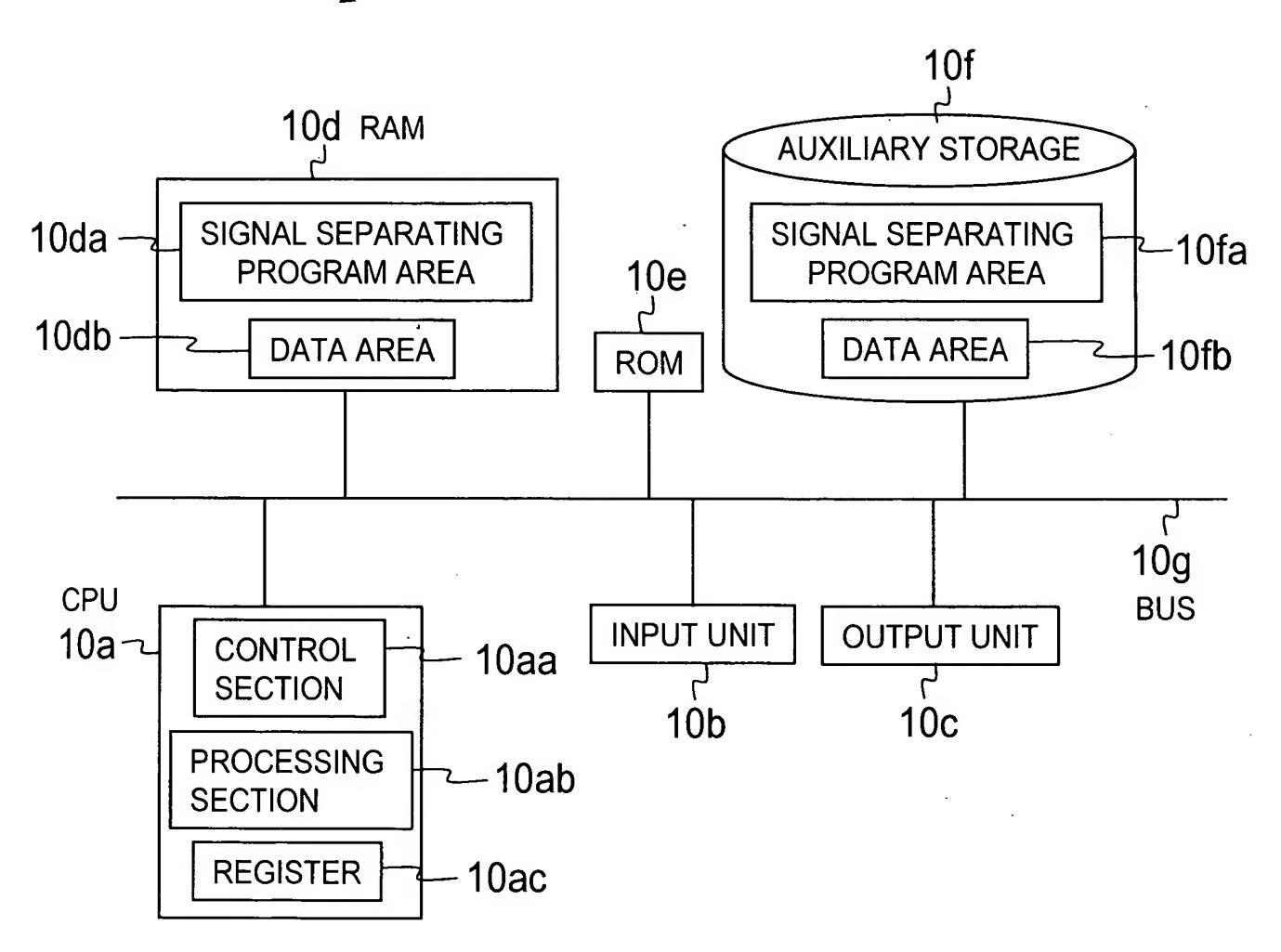
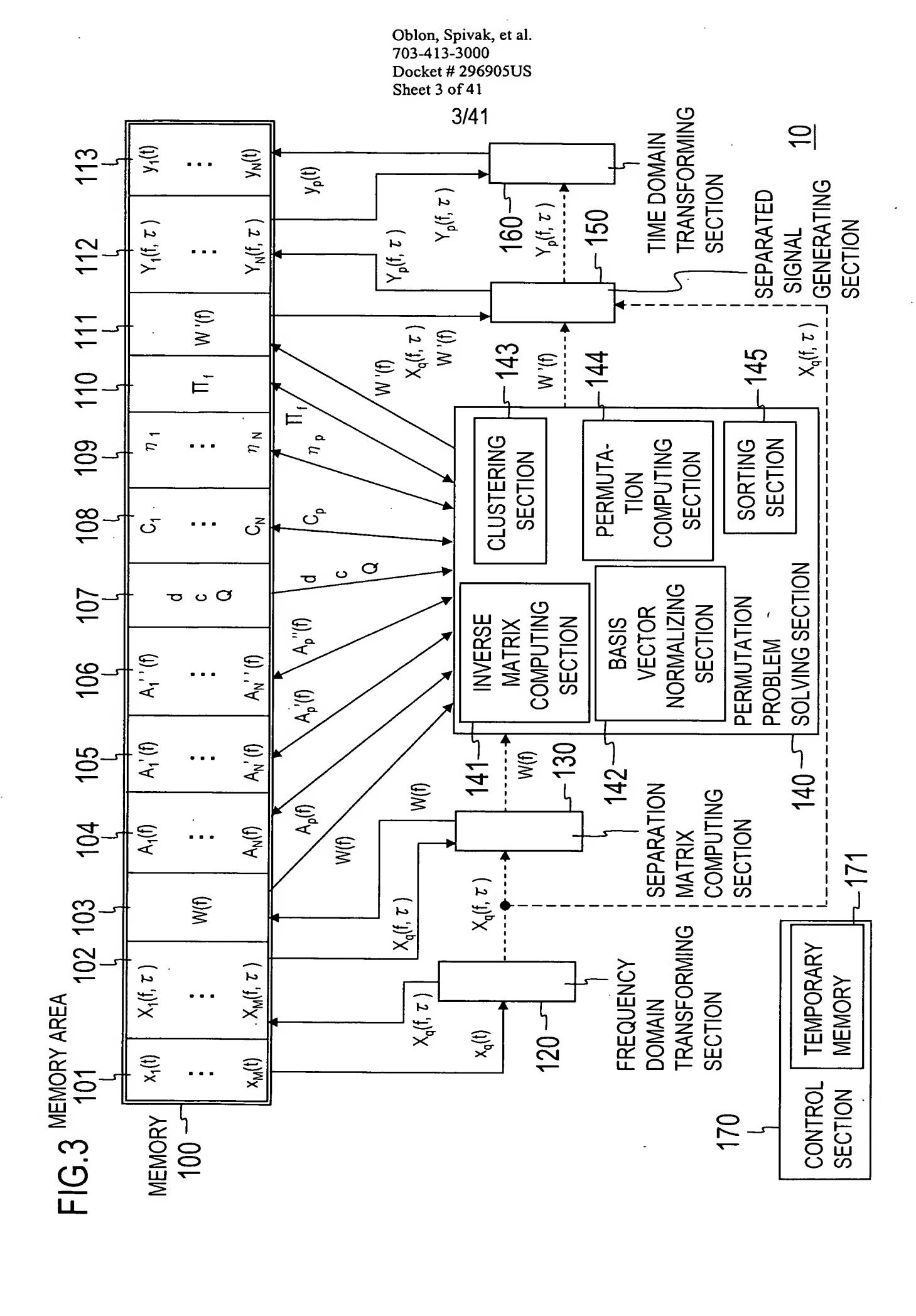


FIG.2







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FIG.4A

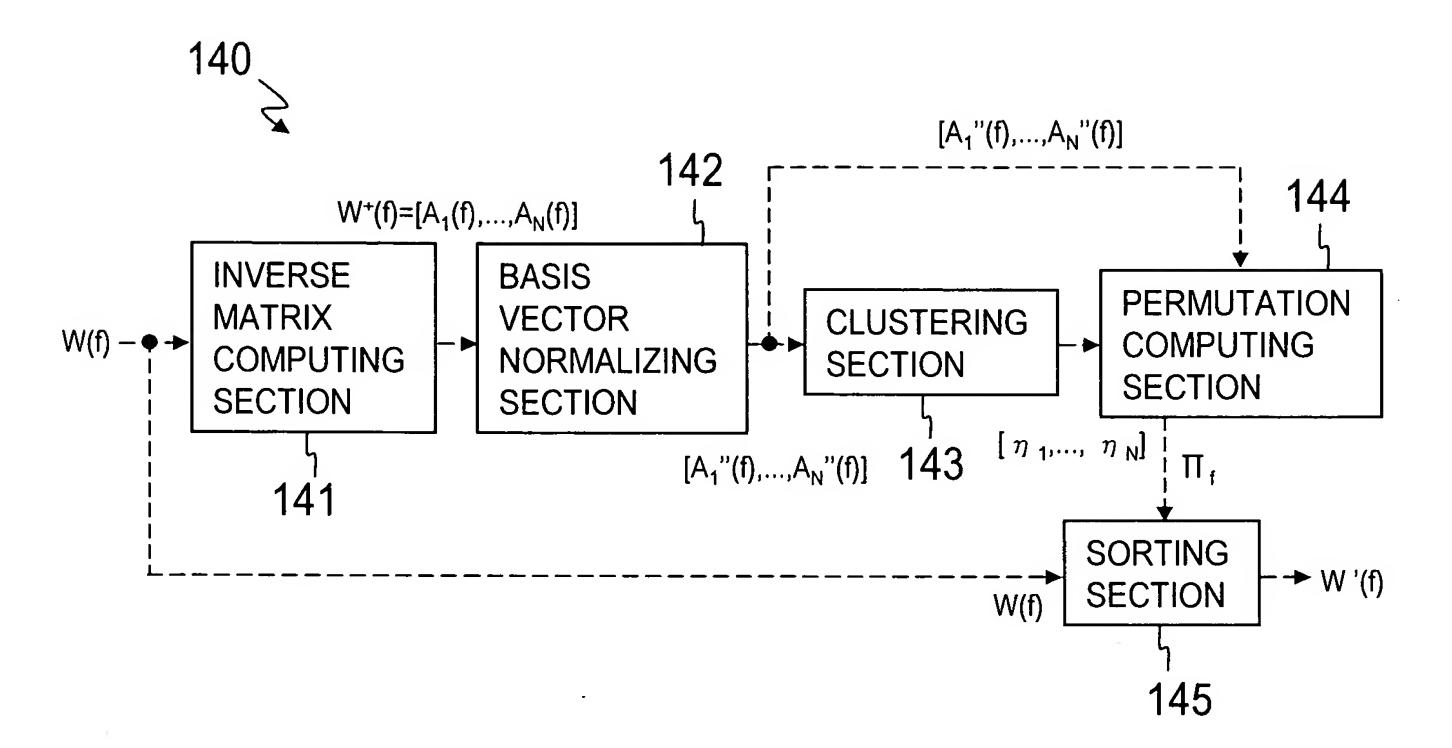
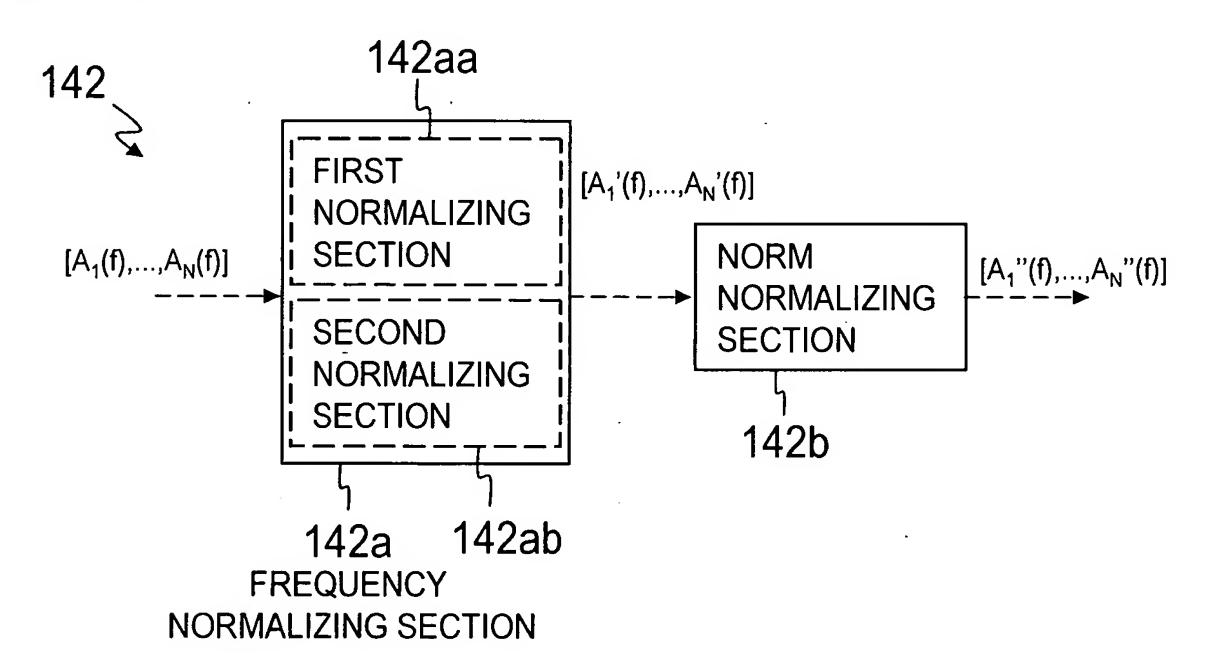


FIG.4B



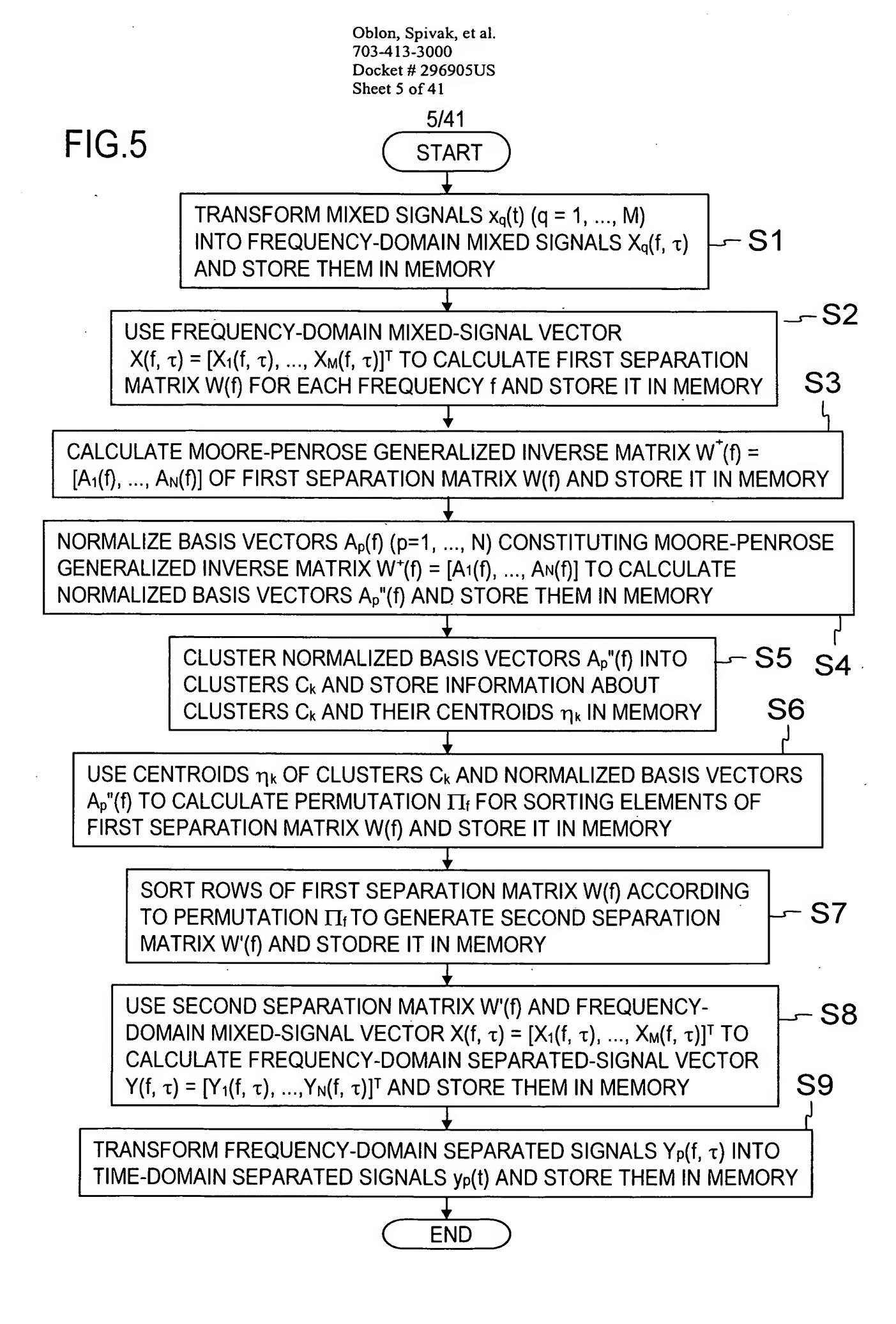


FIG.6

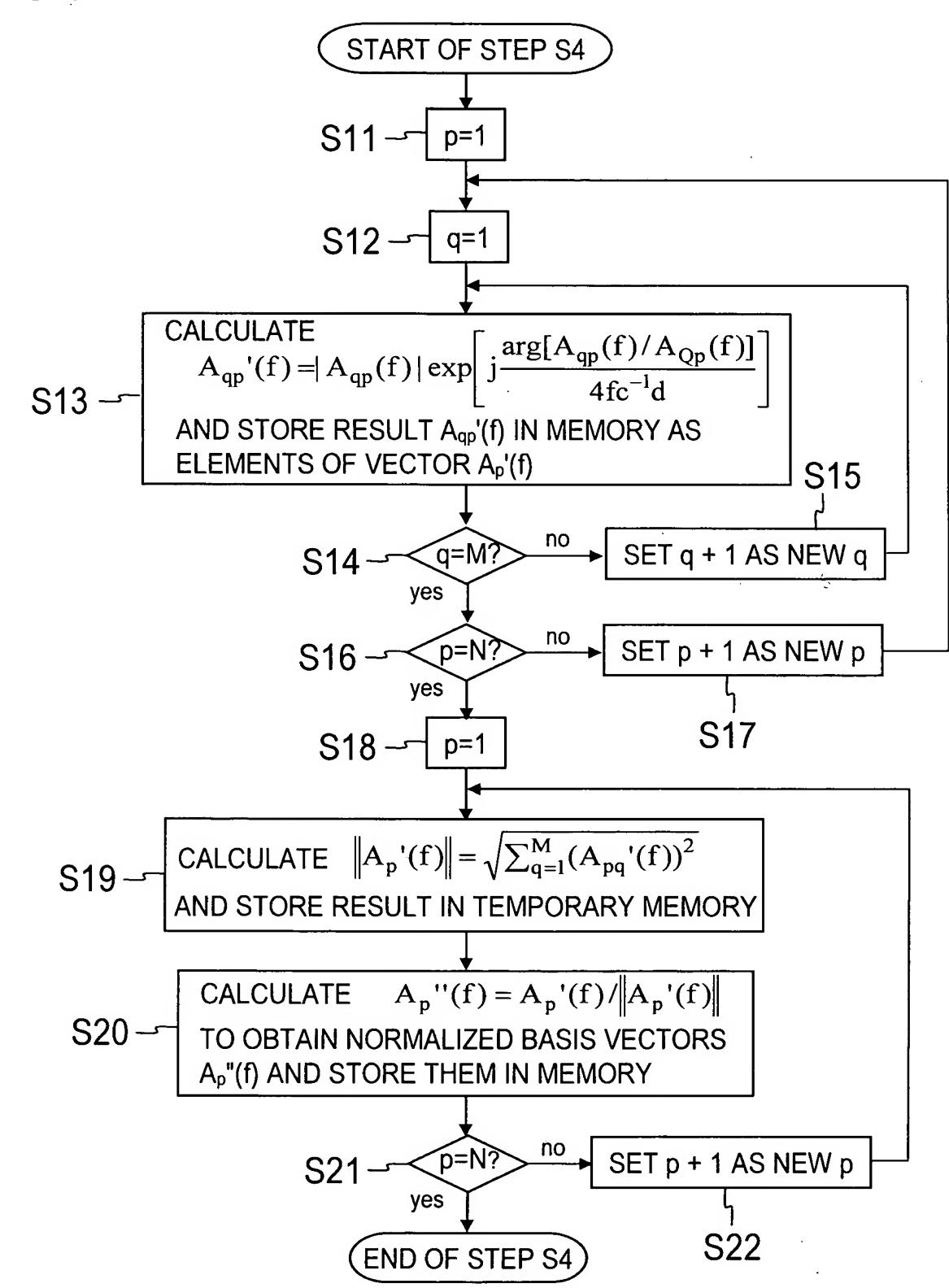


FIG.7A

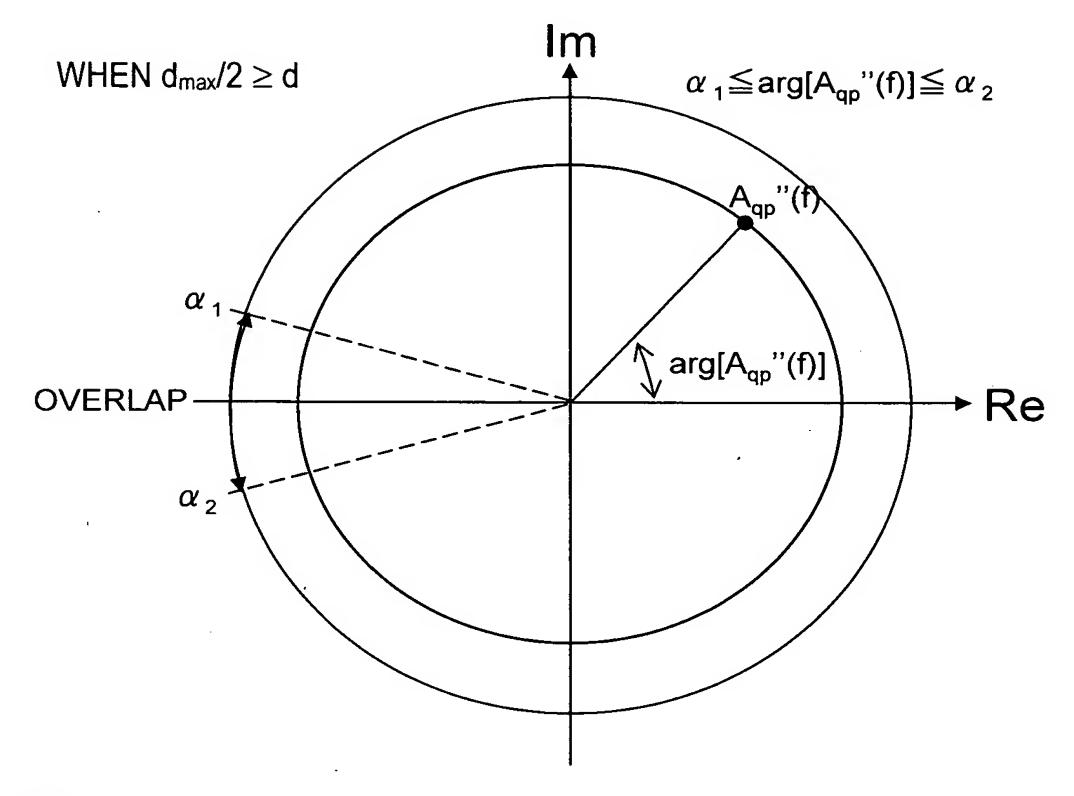
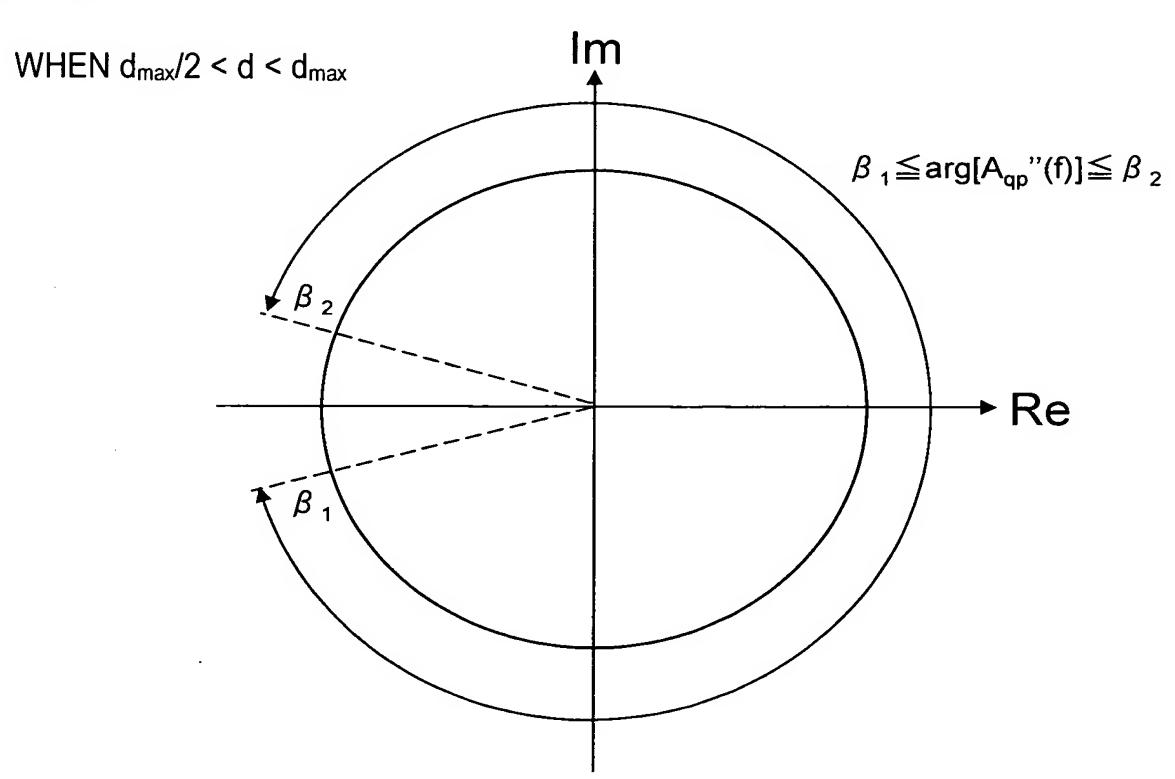


FIG.7B



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FIG.8A

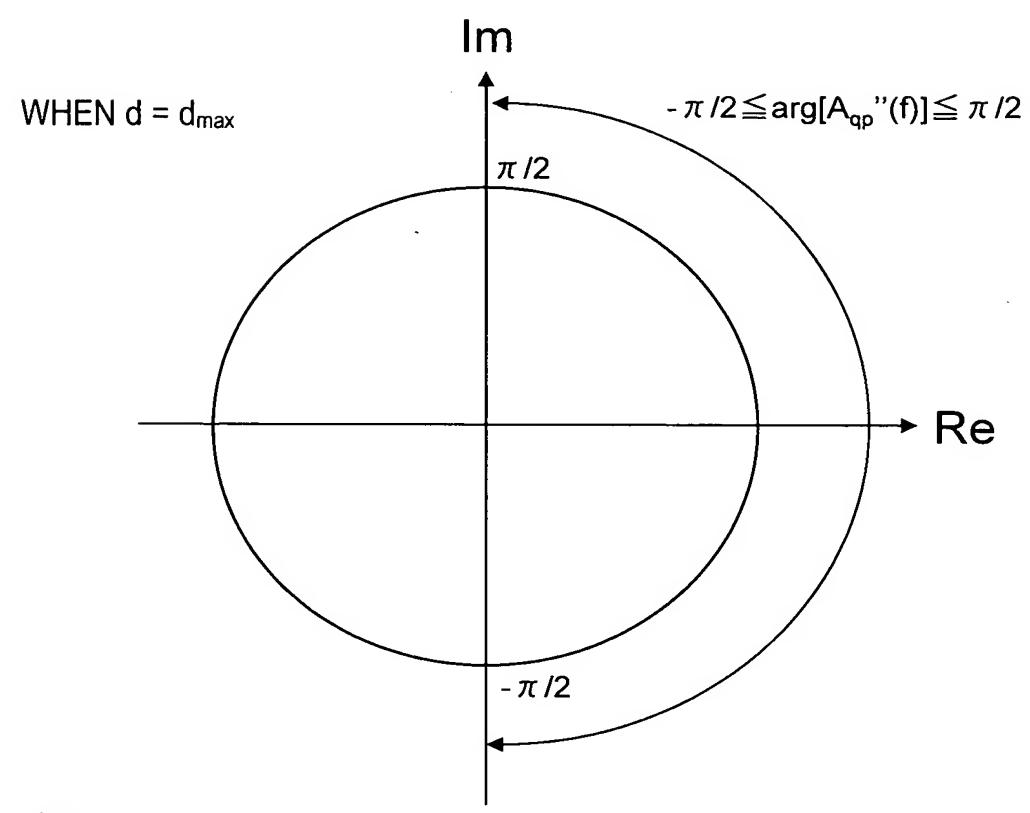
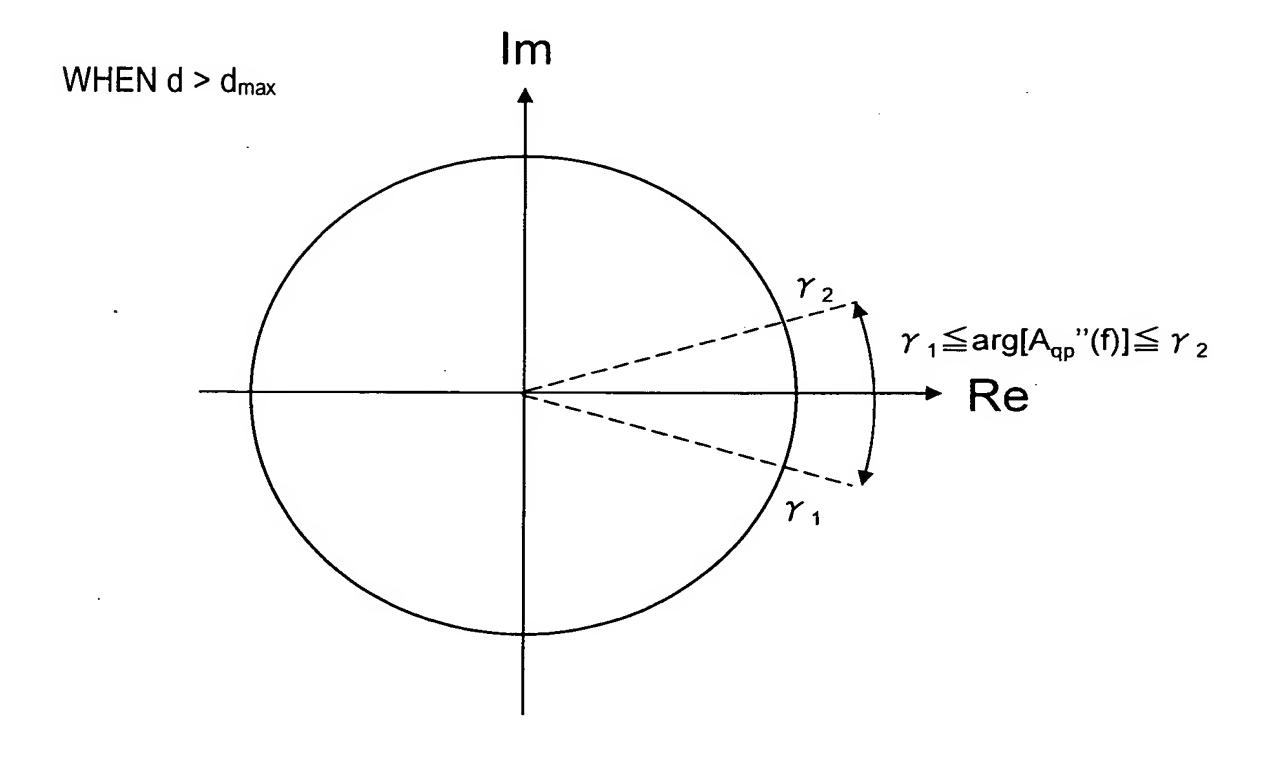


FIG.8B



Oblon, Spivak, et al. 703-413-3000 Docket # 296905US Sheet 9 of 41 9/41 SEPARATING **APPARATUS FRANSFORMING** SIGNAL 200 TIME DOMAIN **Y₁(t)** y_N(t) $y_p(t)$ SECTION GENERATING $Y_p(f, \tau)$ SEPARATED $V_p(f, T)$ 160 SECTION $Y_N(f, \tau)$ SIGNAL $\lambda_1(f, \tau)$ $Y_p(f, \tau)$ 112 $X_q(f, \tau)$ W '(f) (J)... M (f) W $X_q(f, \tau)$ W''(f) W "(f) 240 143 W' '(f) 150-145 144 110 PERMUTA-**PROBLEM** SECTION ηρ SOLVING SORTING SECTION η N CLUSTERING **PERMUTATION** 109 COMPUTING 1 SECTION SECTION TION 108 ပ ح \mathcal{S} **CORRECTING SECTION EVALUATING SECTION** Q ပ Q 107 ပတ Q **PERMUTATION PERMUTATION NORMALIZING** A_p"(f) COMPUTING VECTOR SECTION SECTION INVERSE **BASIS MATRIX** $A_N''(f)$ A₁''(f) 106 $A_{p}'(f)$ A₁′(f) $A_{N}'(f)$ 105 **—130** (2 'J)^bX 142 141 W(f) 246 247 SEPARATION COMPUTING A_p(f) 104 $A_1(f)$ $A_N(f)$ SECTION MATRIX W(f) $X_q(f, \tau)$ 103 W(f) $X_q(f, \tau)$ **TRANSFORMING** 171 $X_{M}(f, \tau)$ TEMPORARY X₁(f, T FREQUENCY 102 $X_q(f, \tau)$ SECTION MEMORY DOMAIN 120x_q(t) $x_{M}(t)$ x₁(t) 101 CONTROL SECTION FIG.9 170 100

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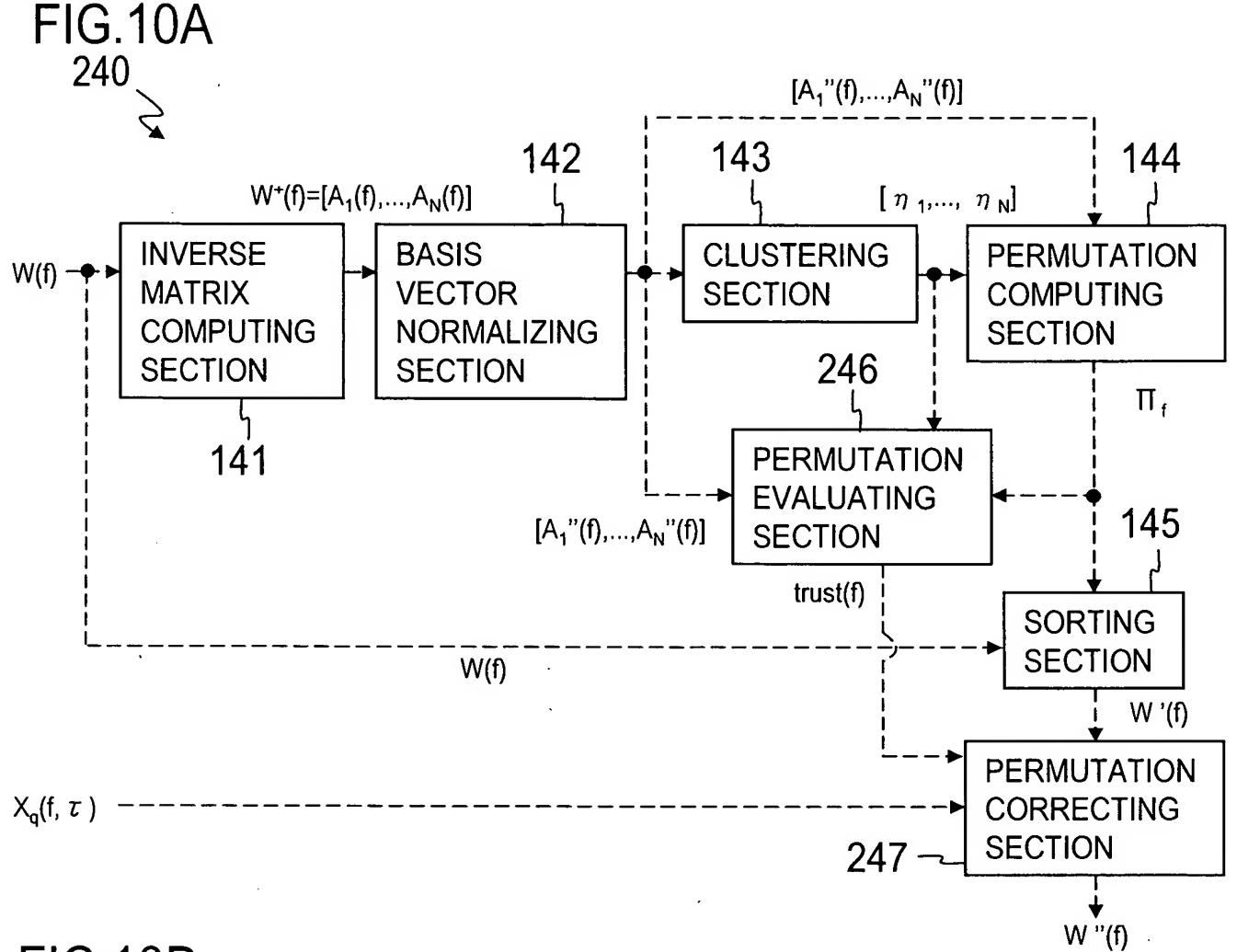
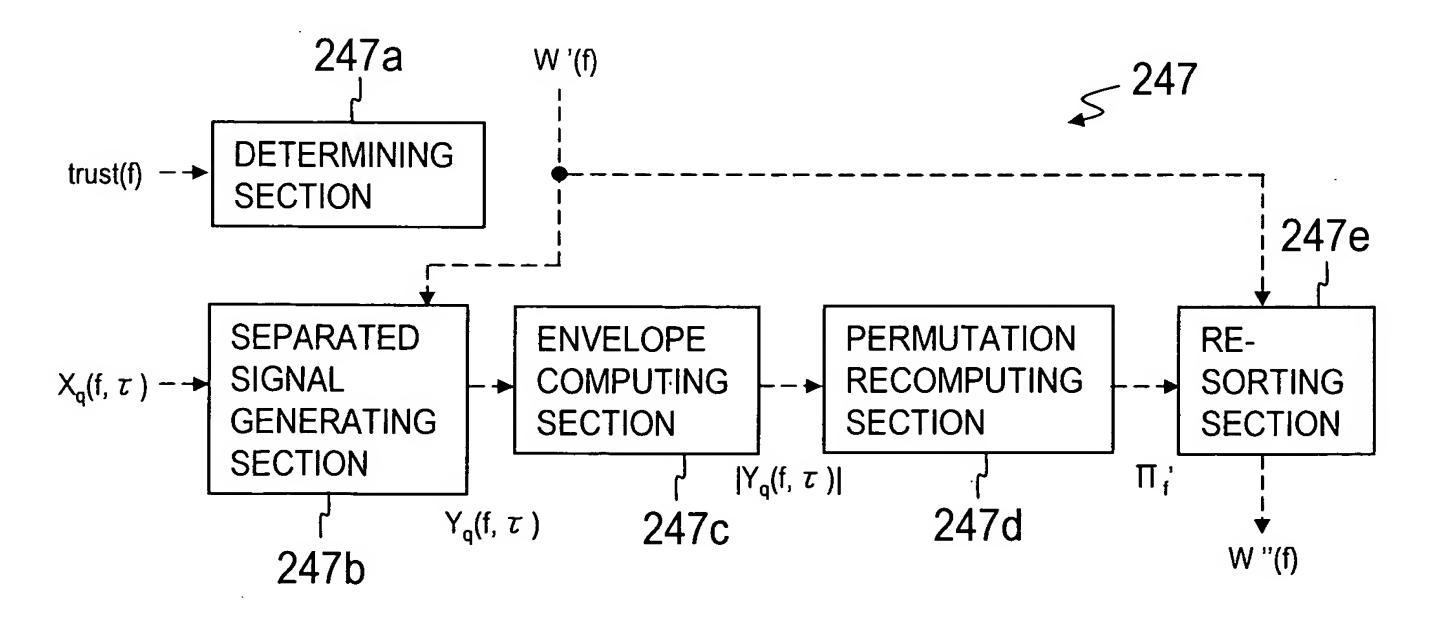
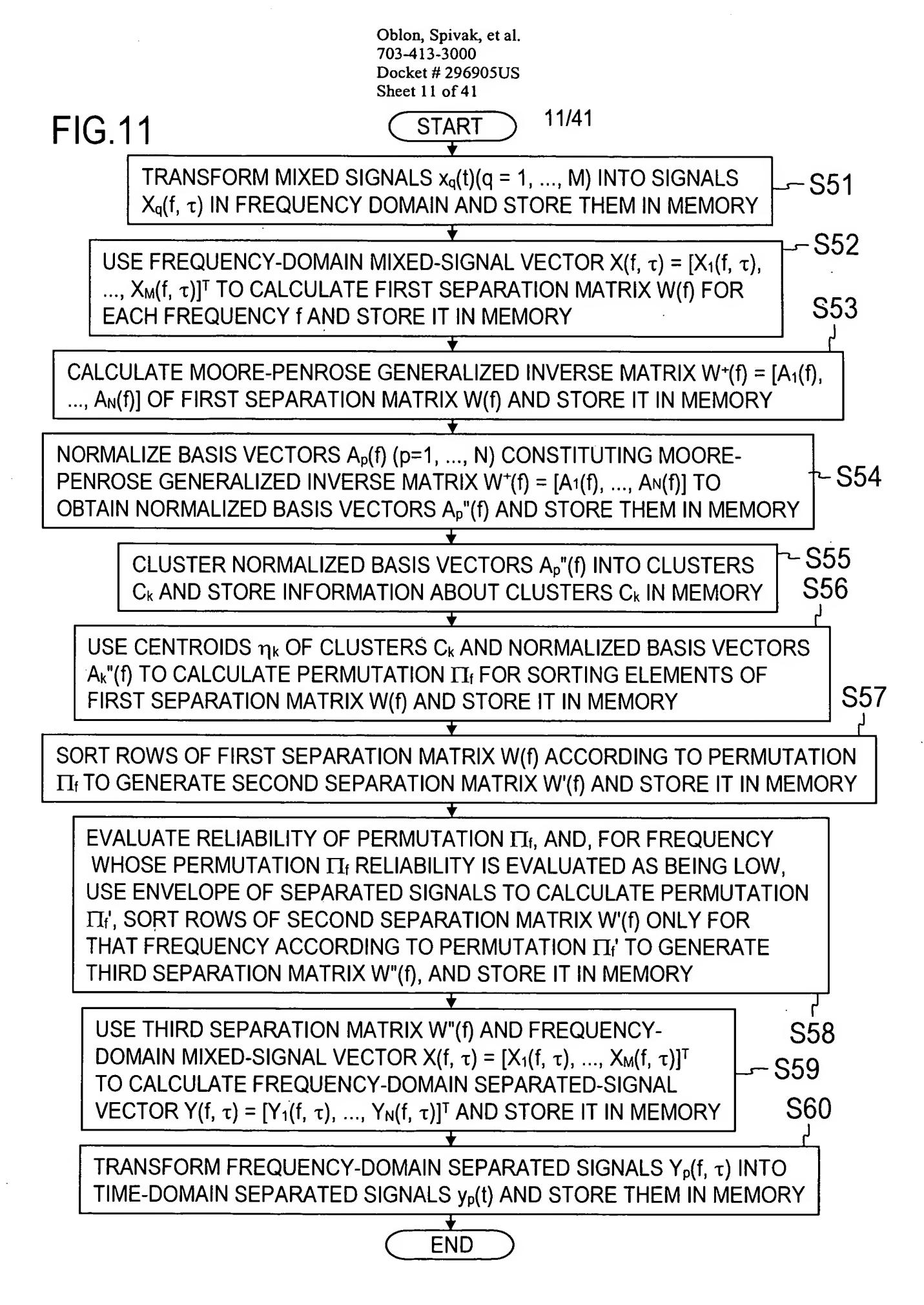
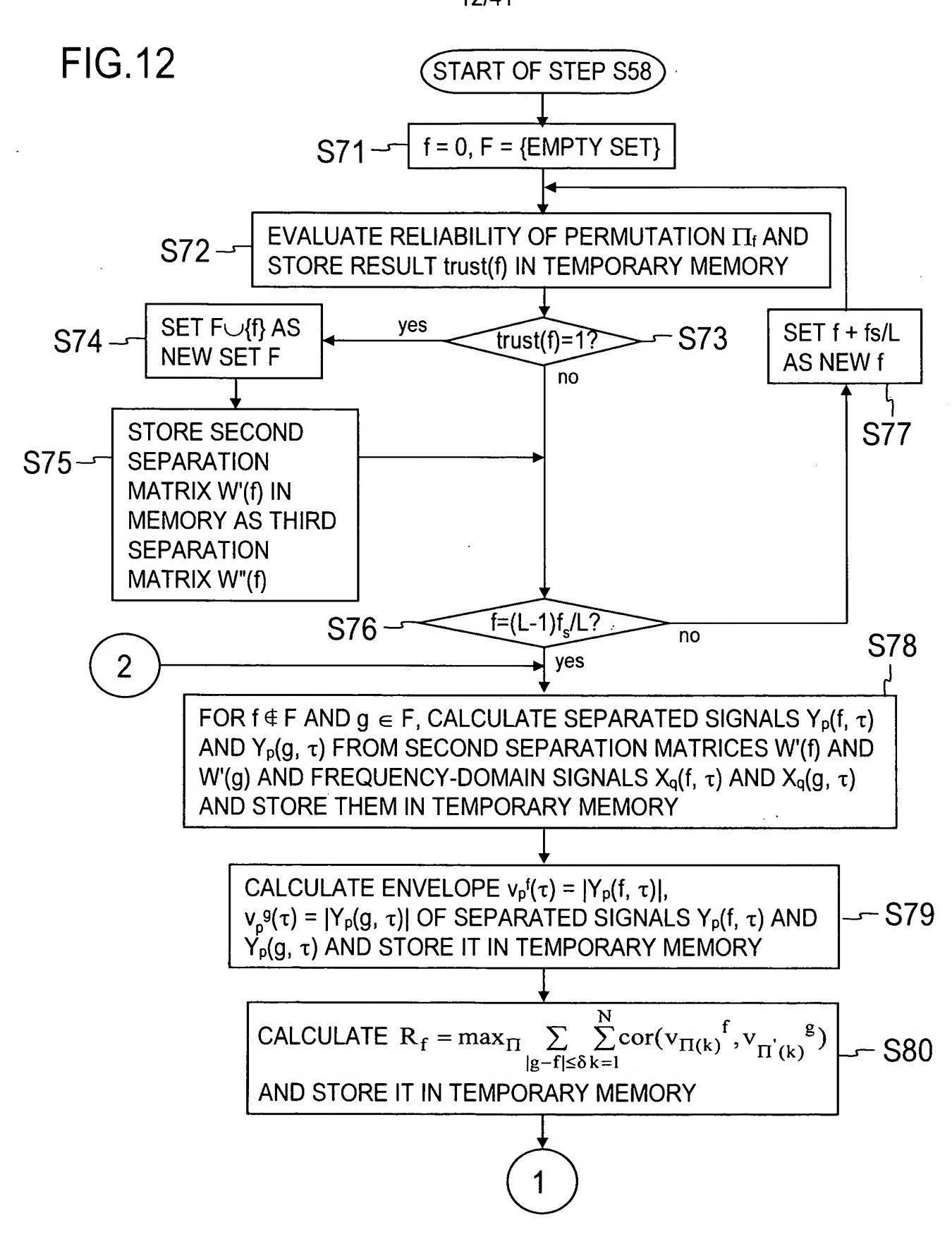


FIG.10B





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FIG.13

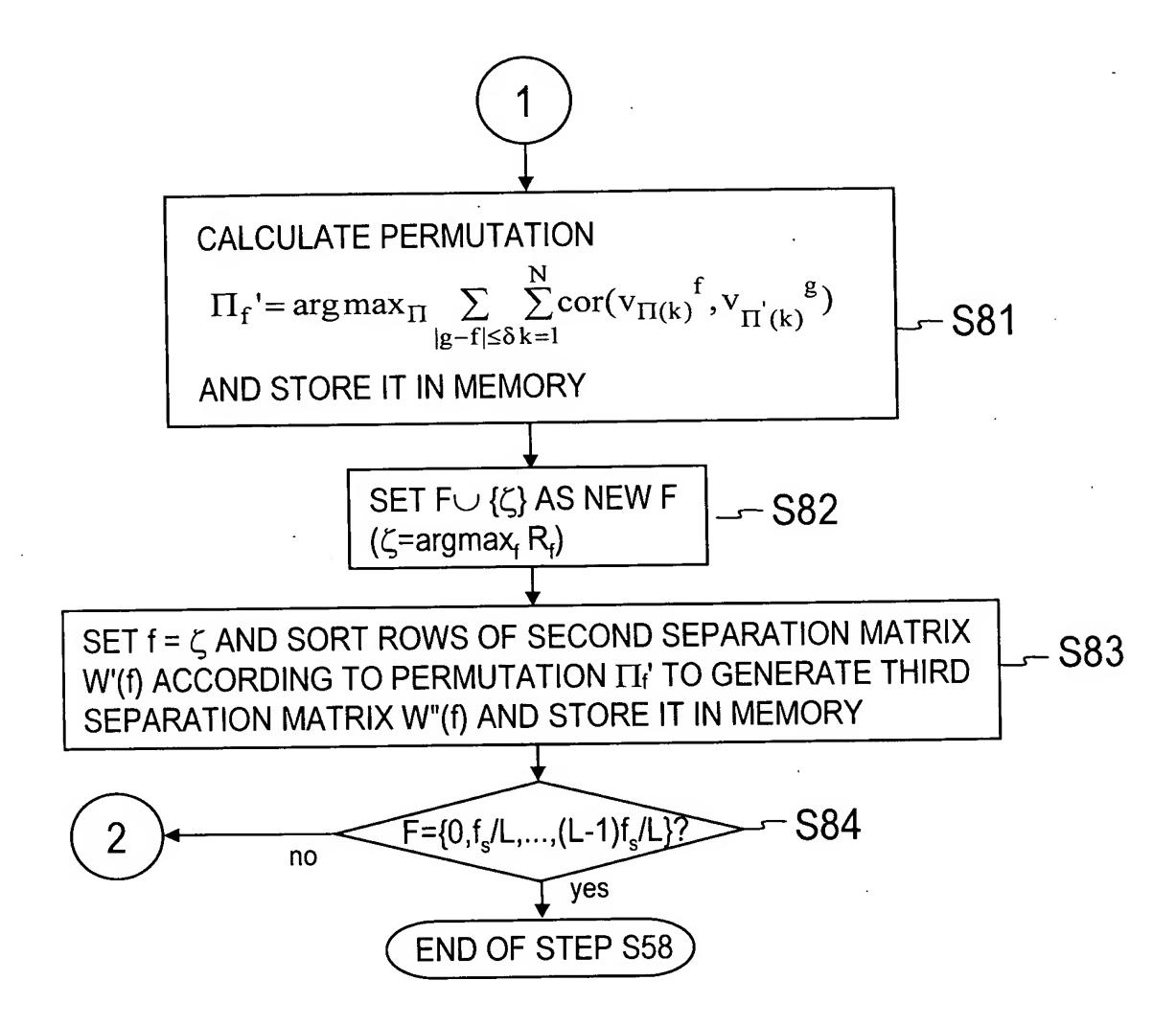


FIG.14A

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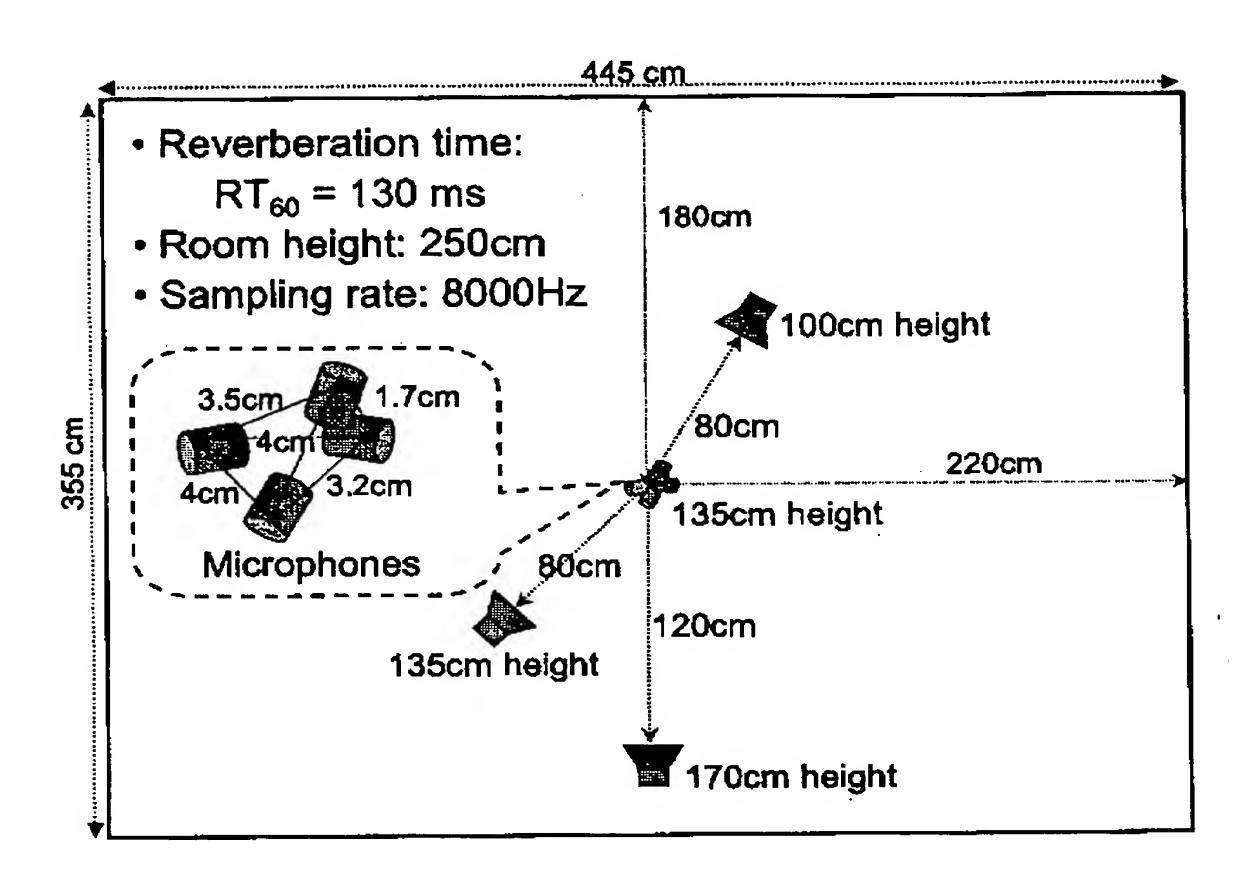


FIG 14R

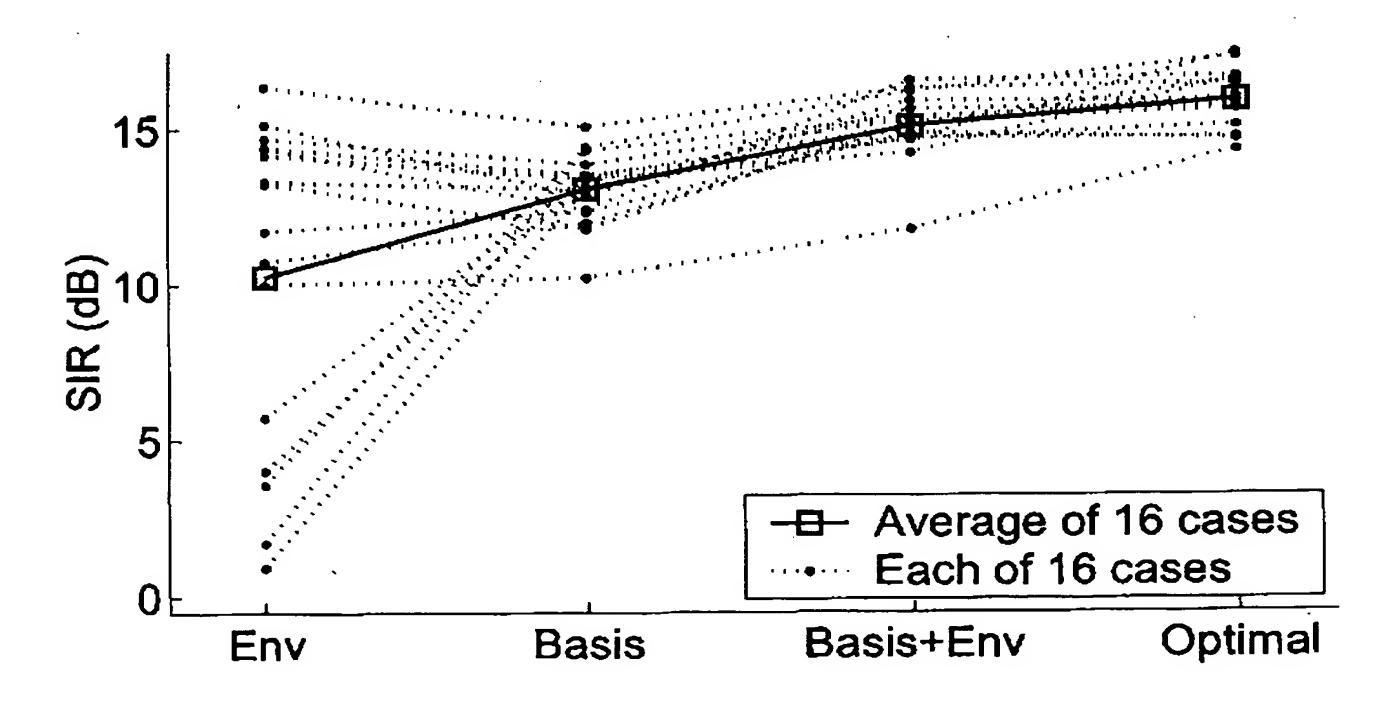


FIG.15A

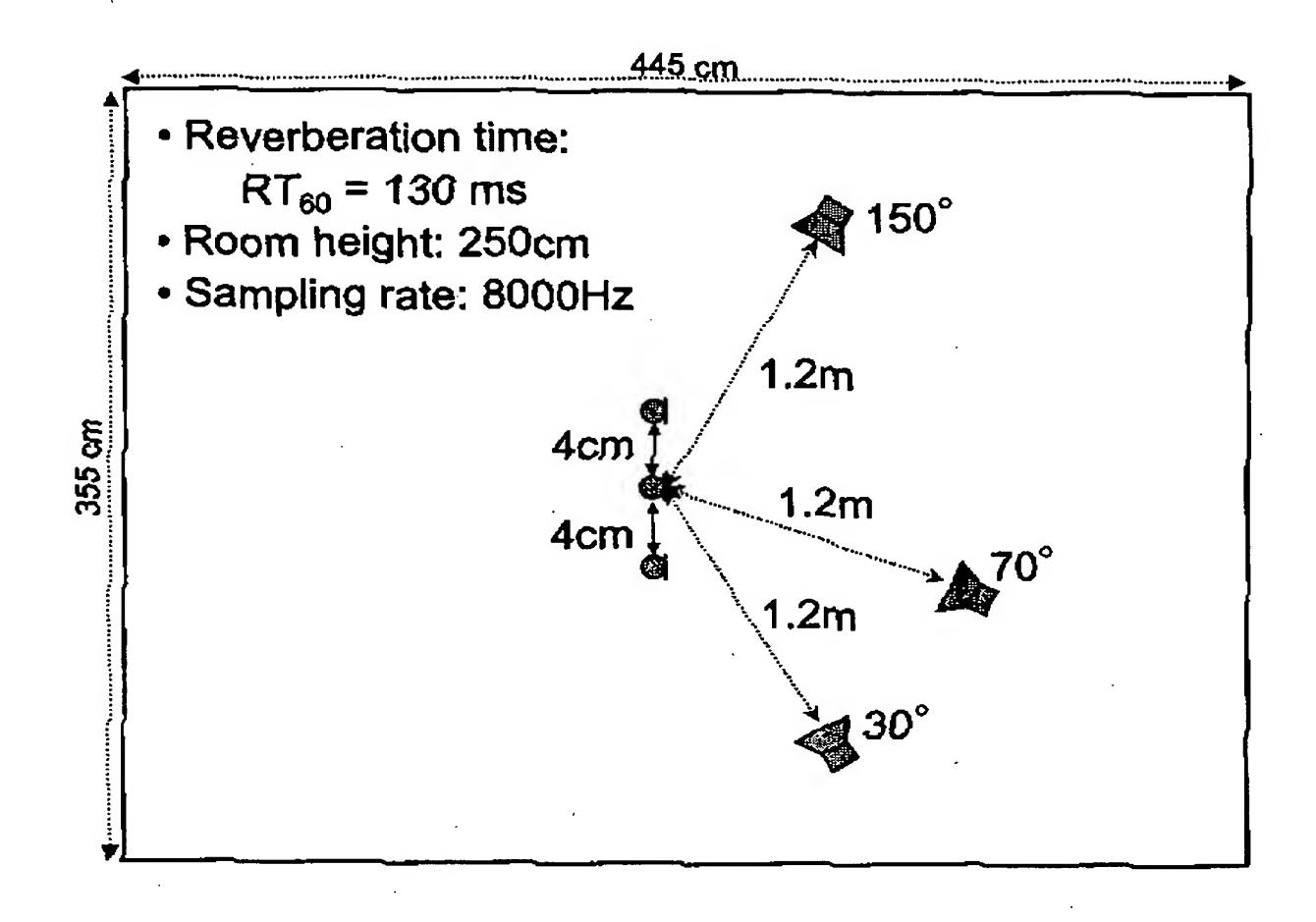
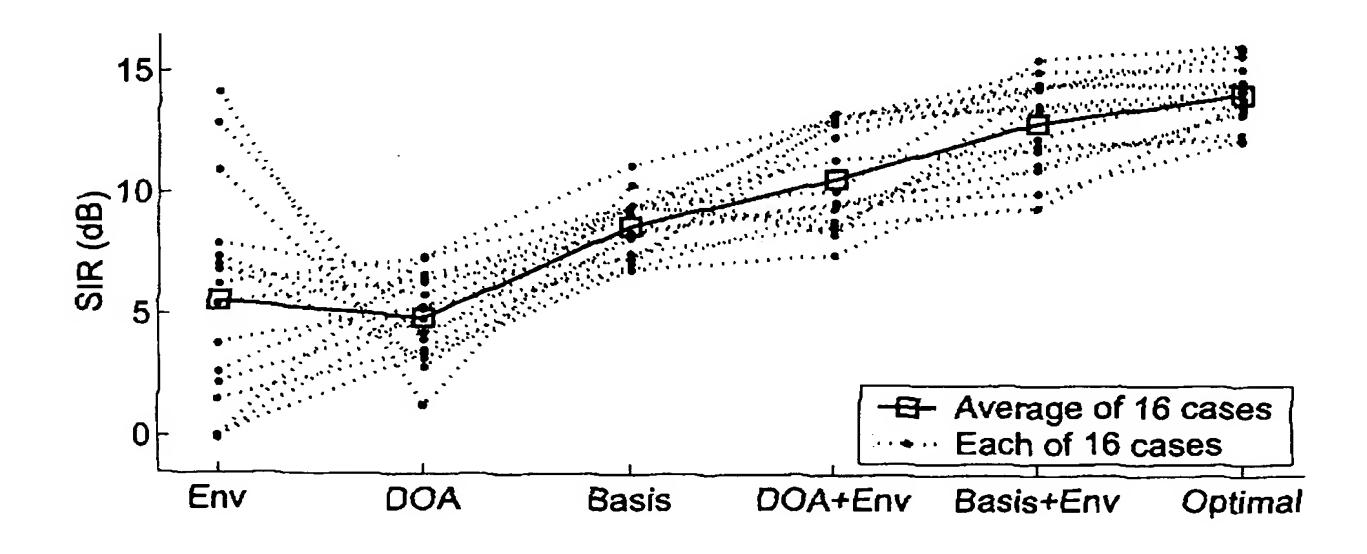


FIG.15B



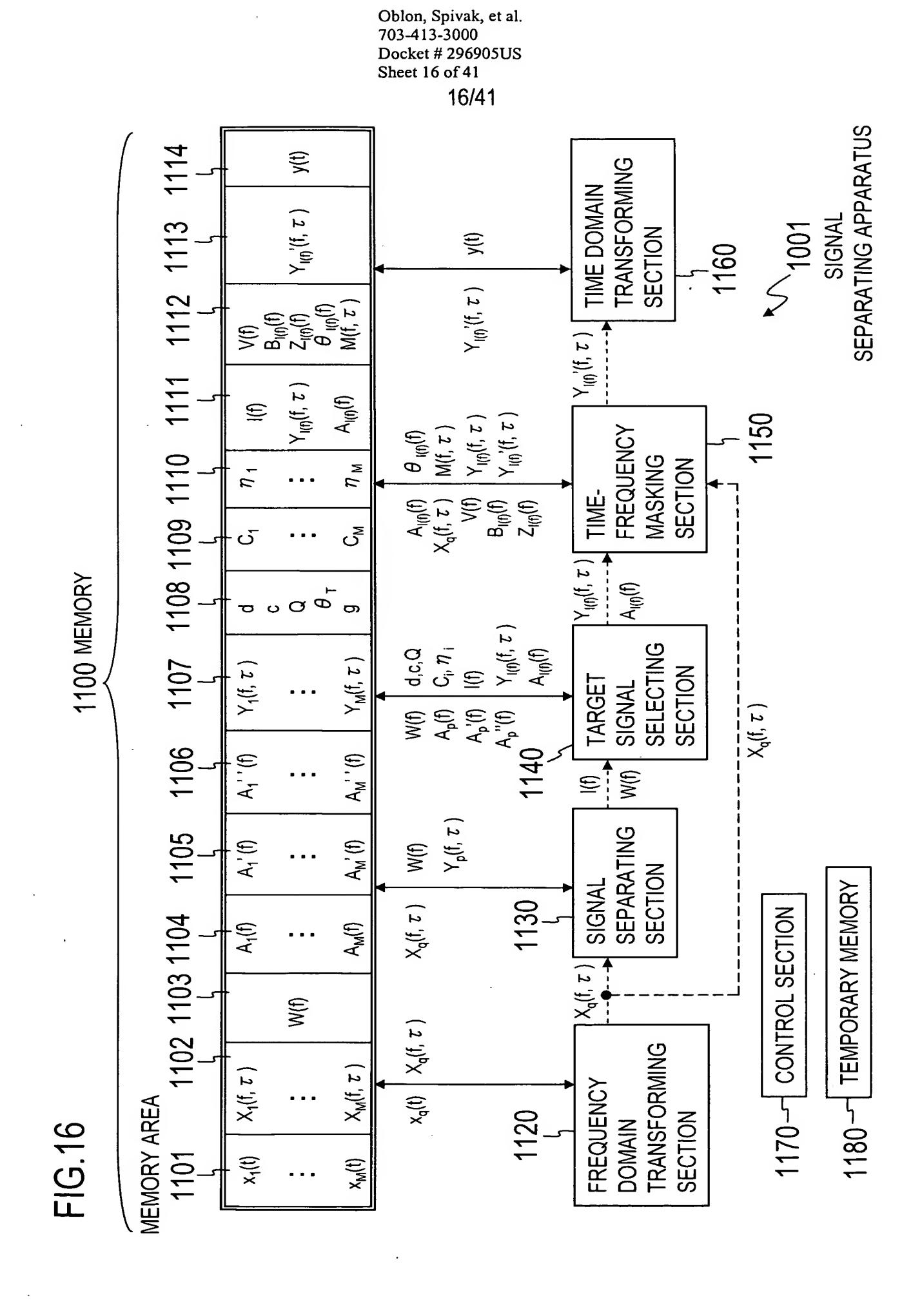


FIG.17A

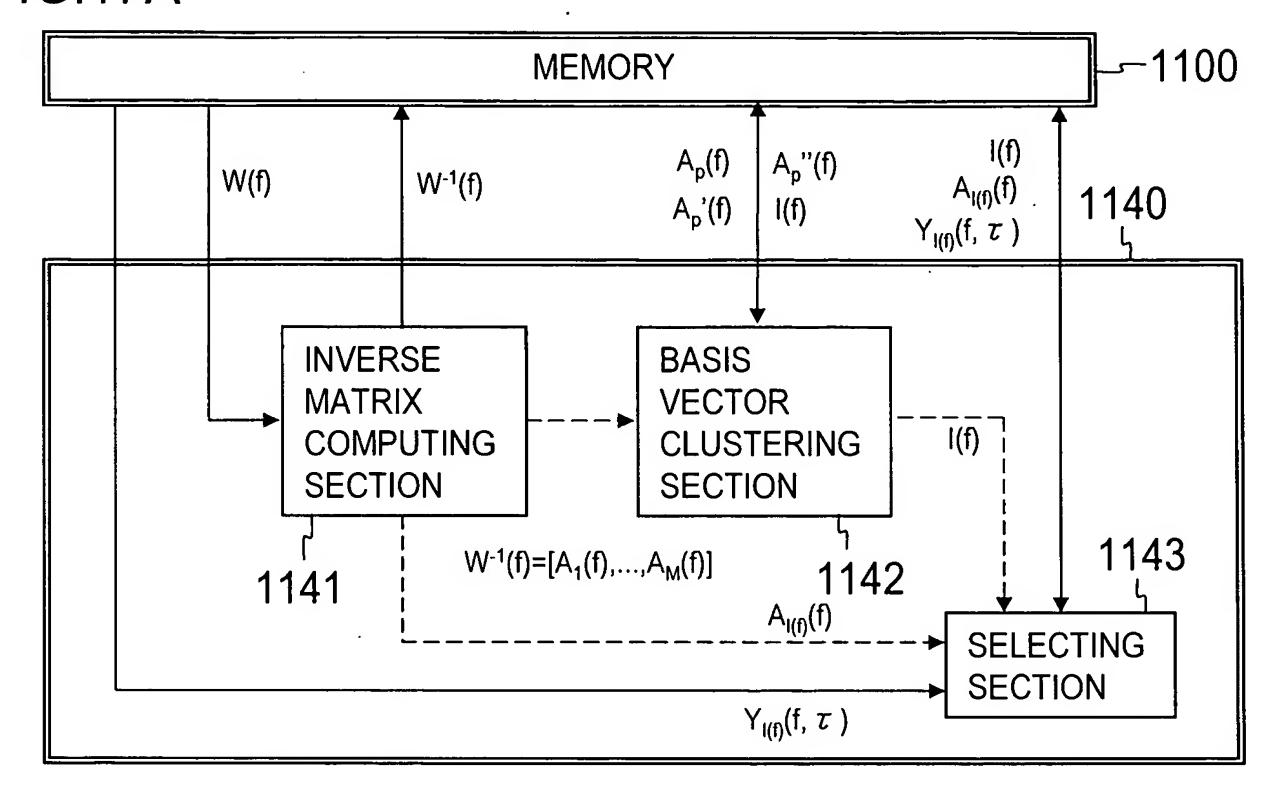
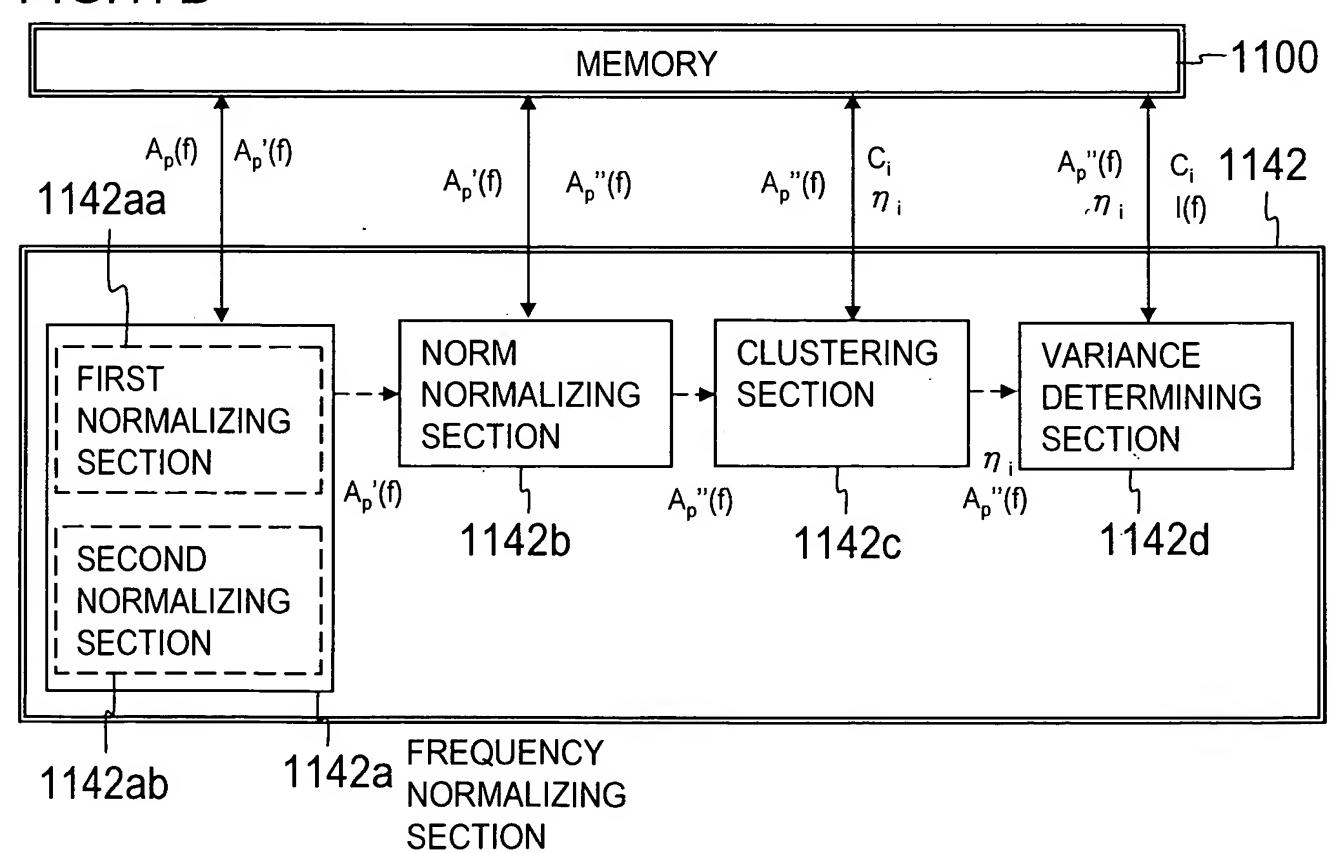
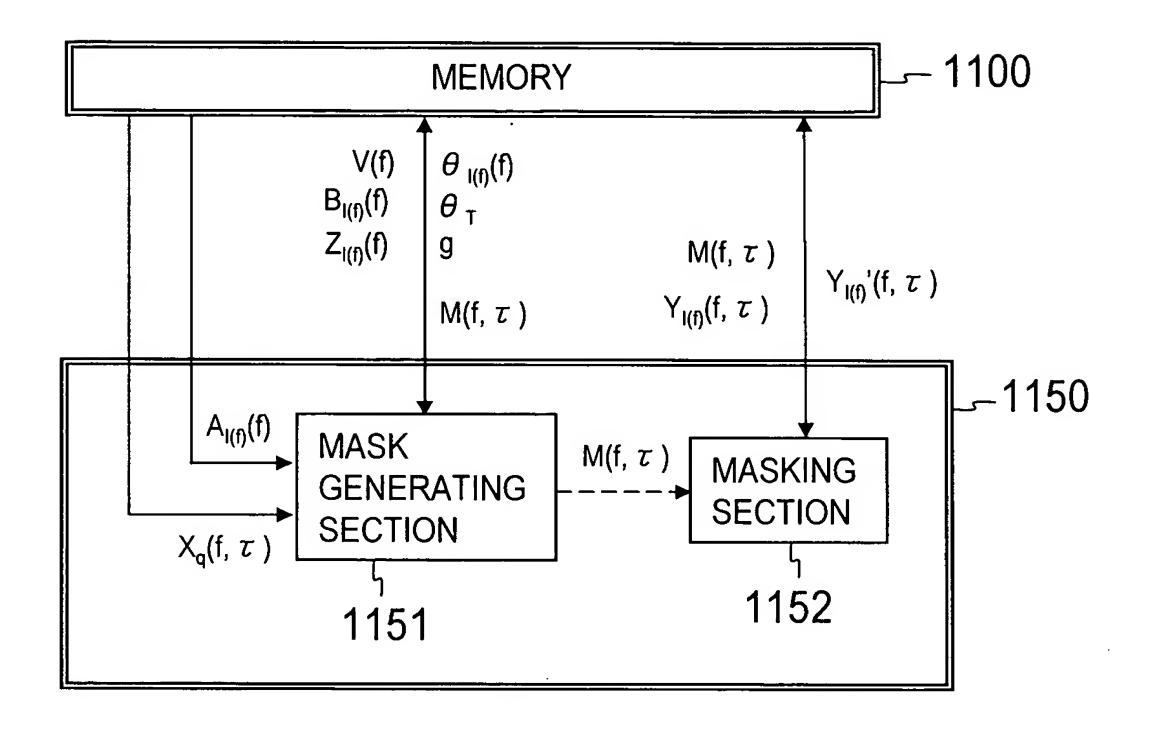


FIG.17B



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FIG.18A



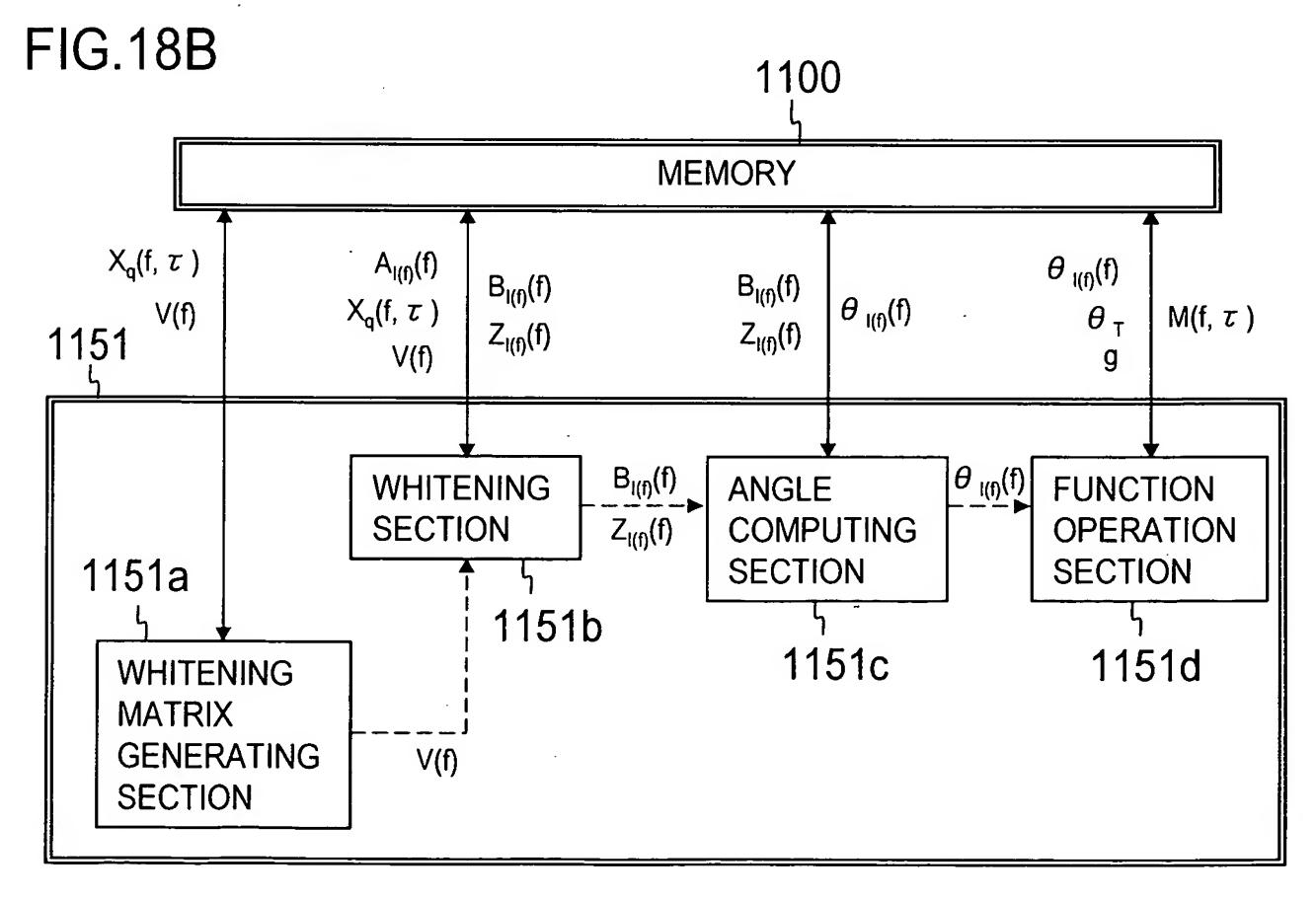


FIG.19

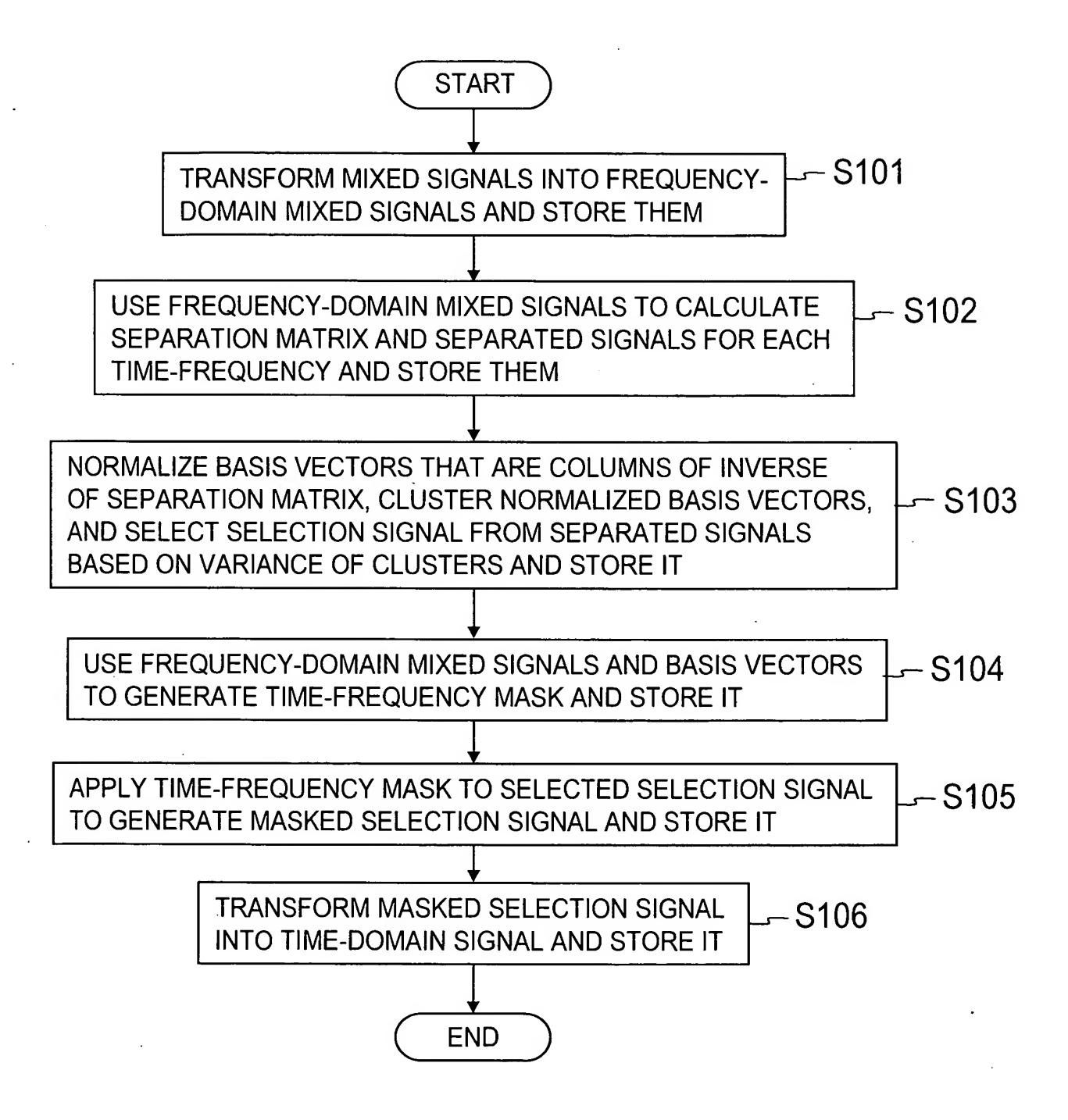
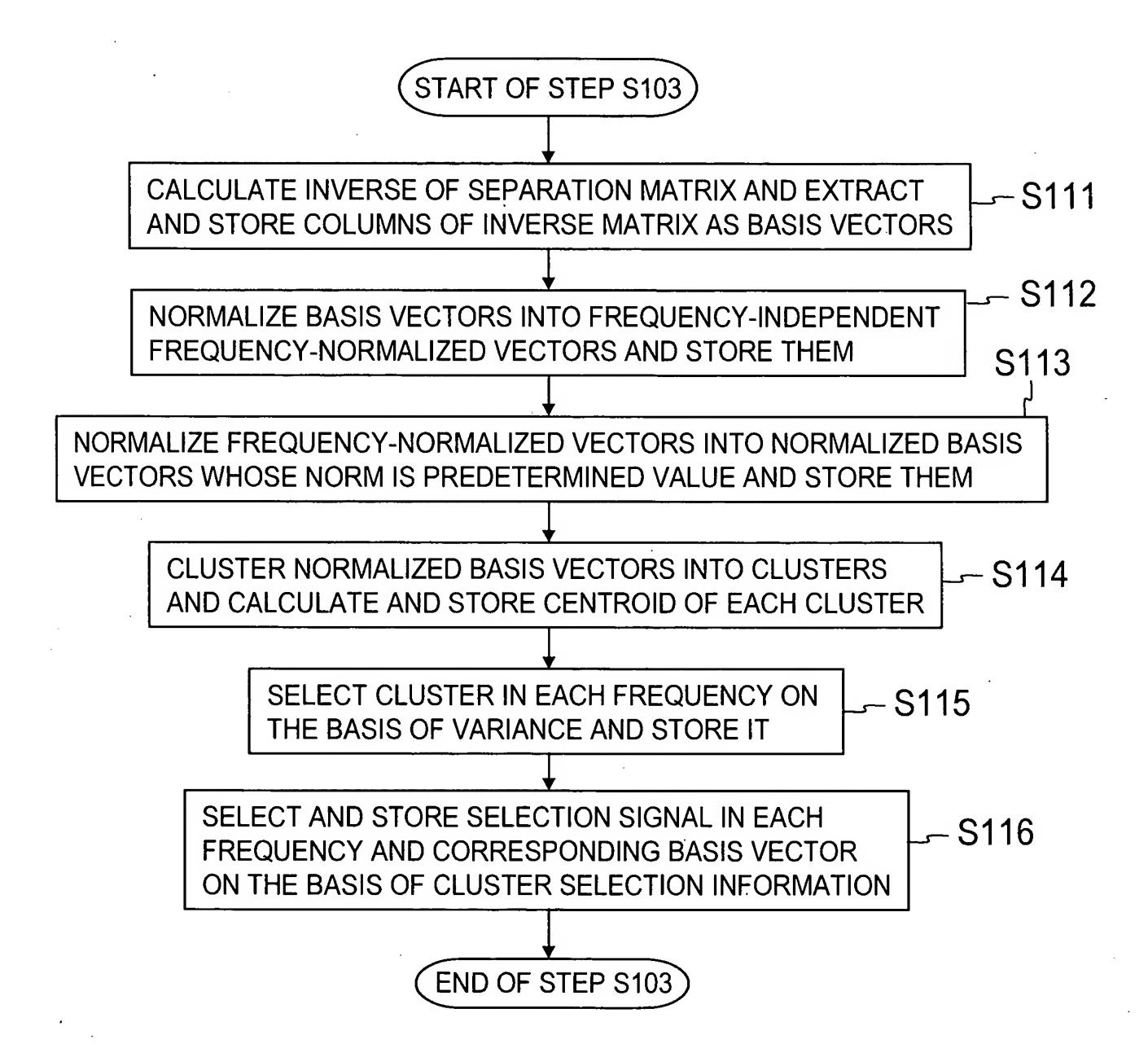


FIG.20



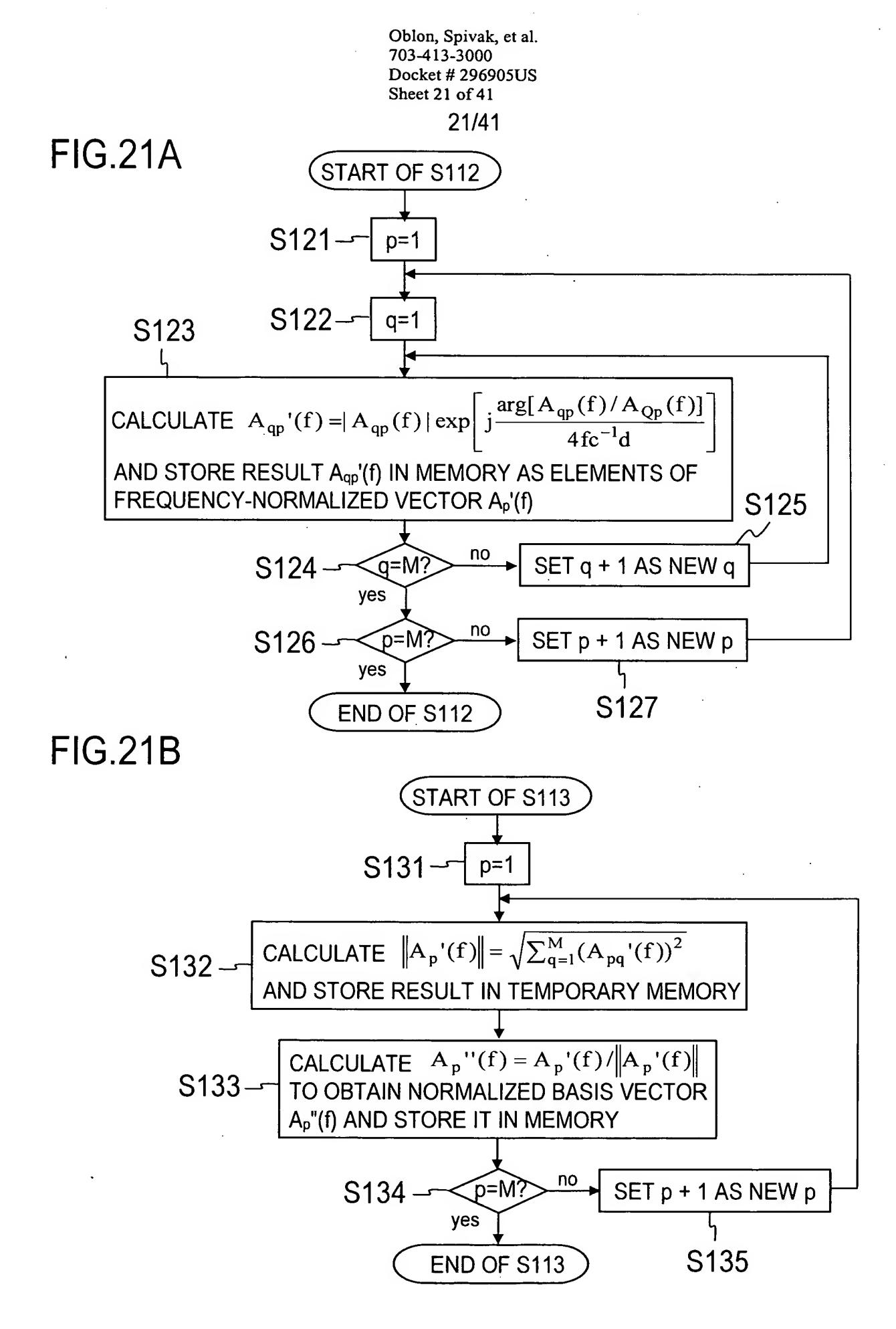


FIG.22

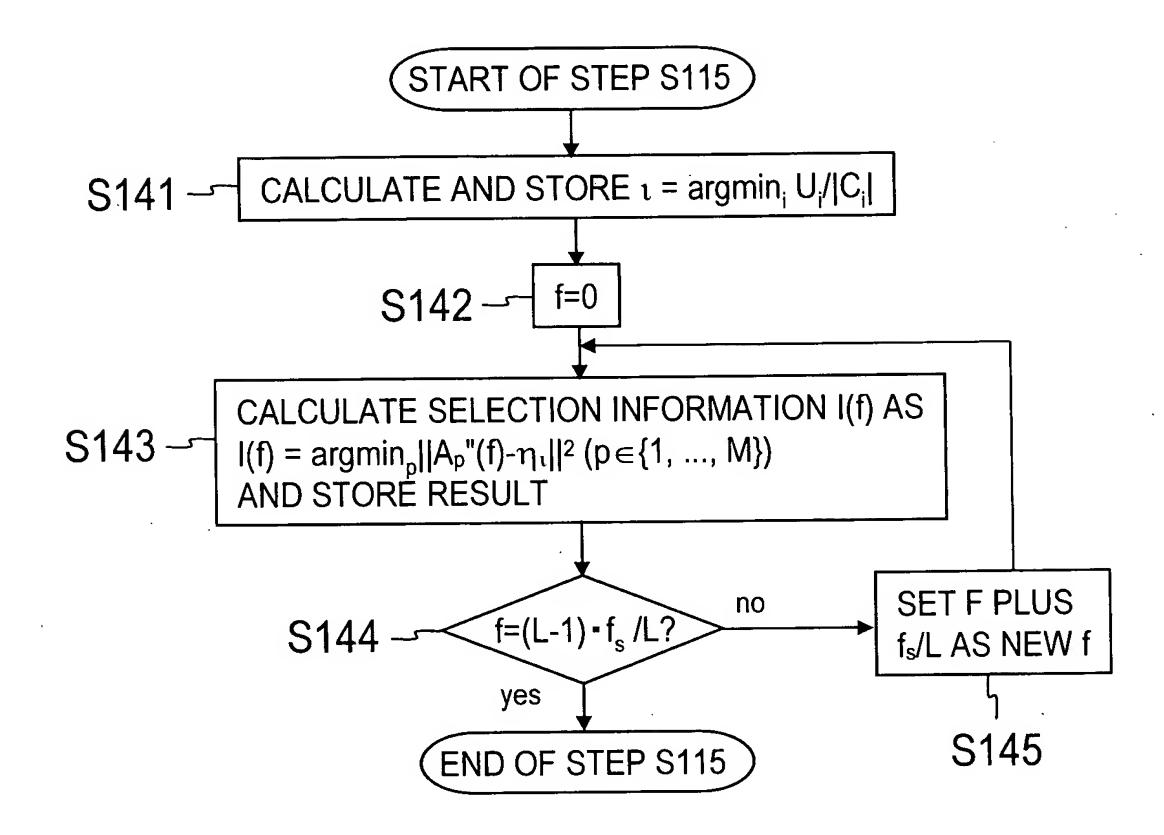


FIG.23

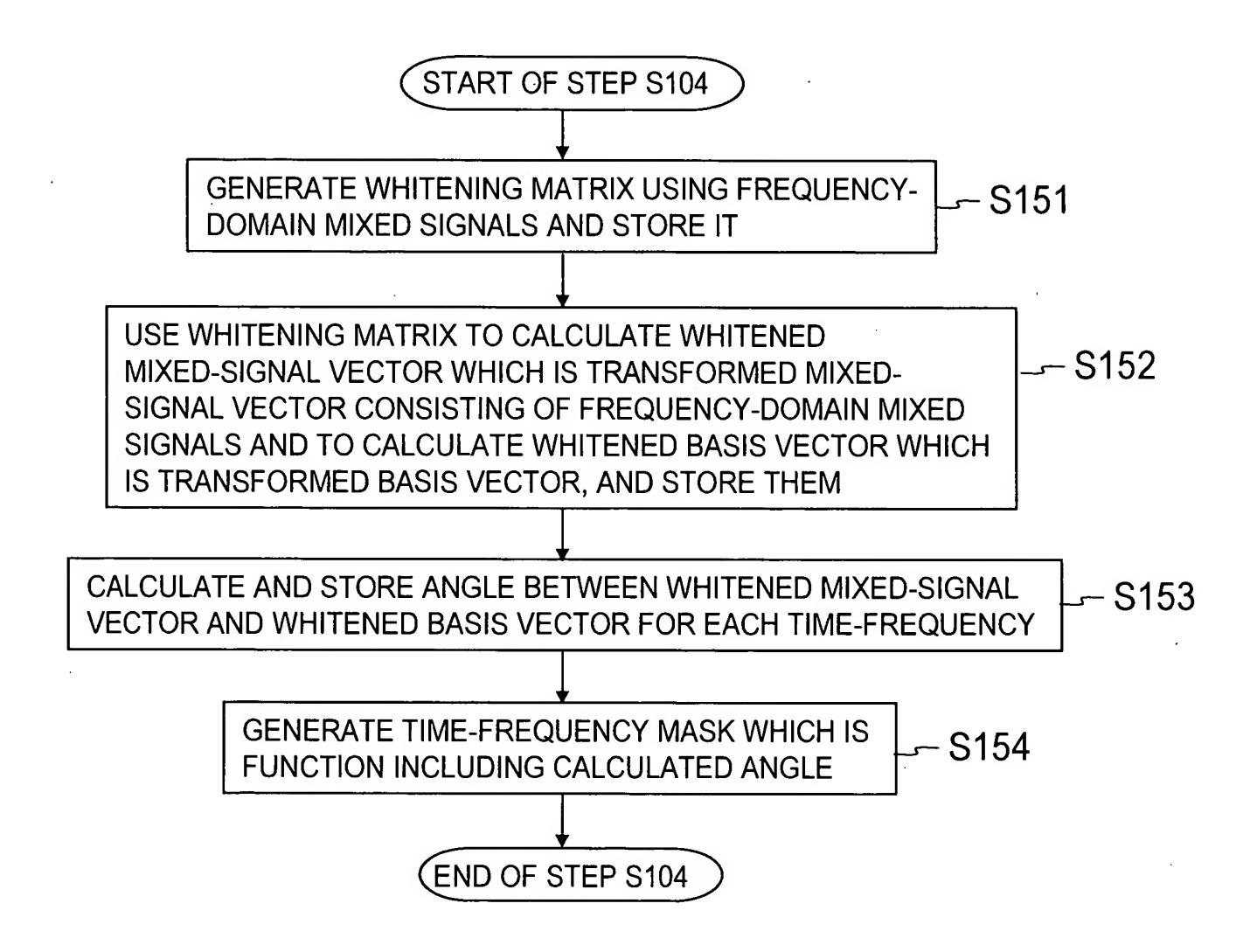
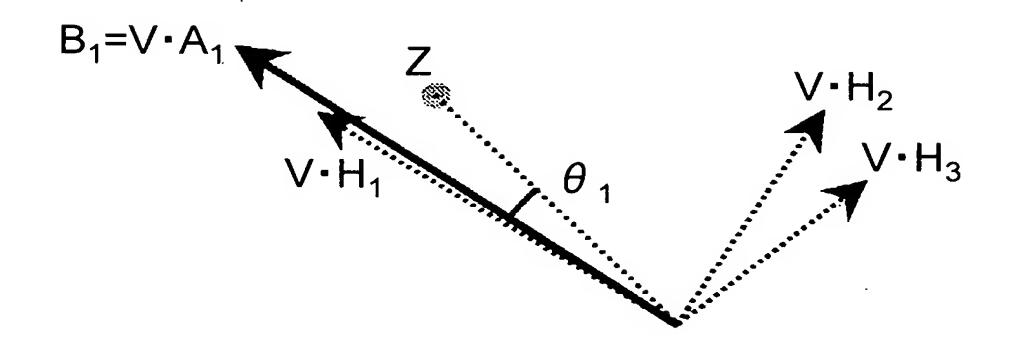


FIG.24A

$$(\theta_T,g) = (0.375\pi,40) \quad (\theta_T,g) = (0.333\pi,20) \quad (\theta_T,g) = (0.25\pi,20)$$

$$0.5 \quad 0.5 \quad$$

FIG.24B



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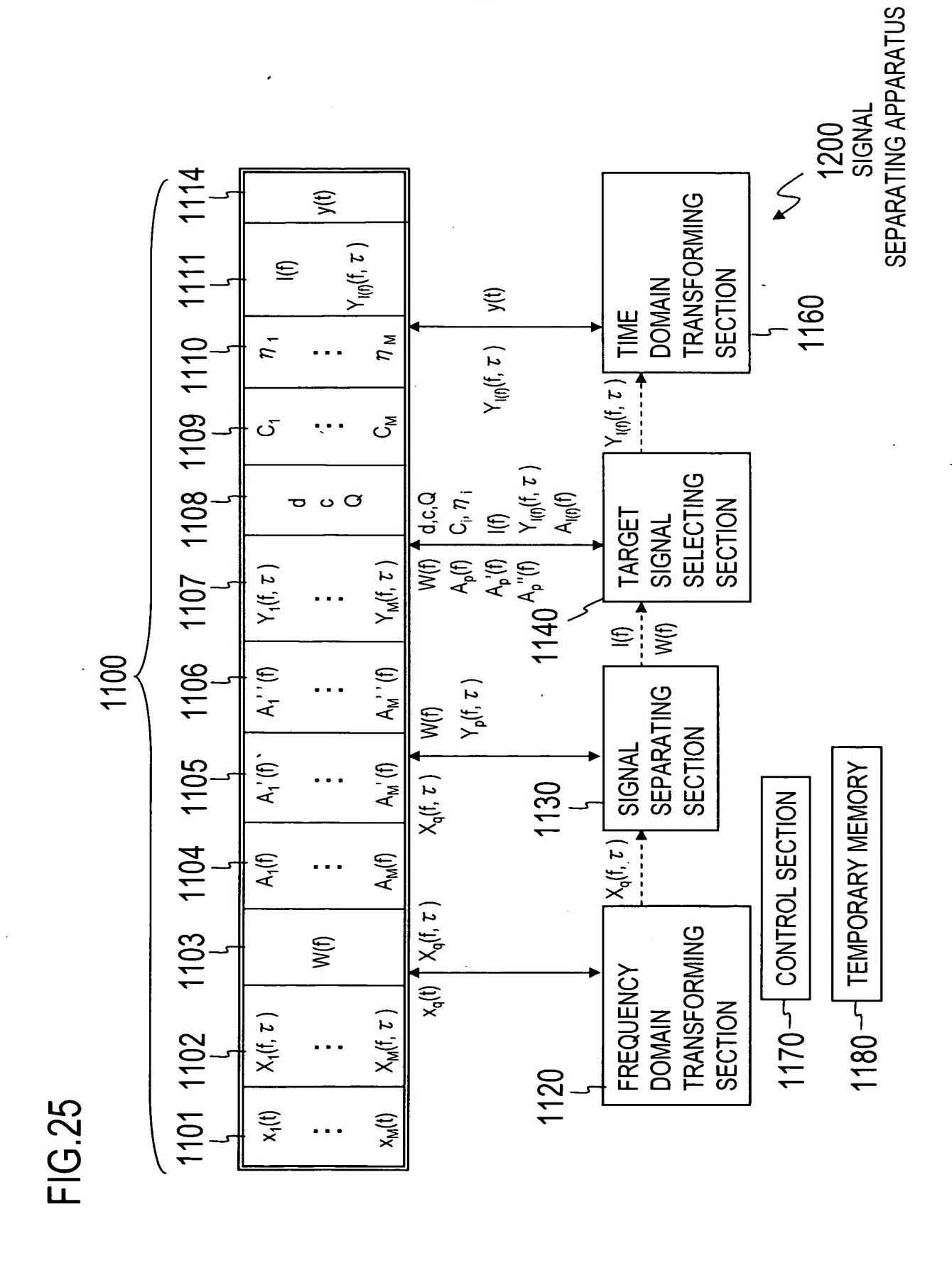
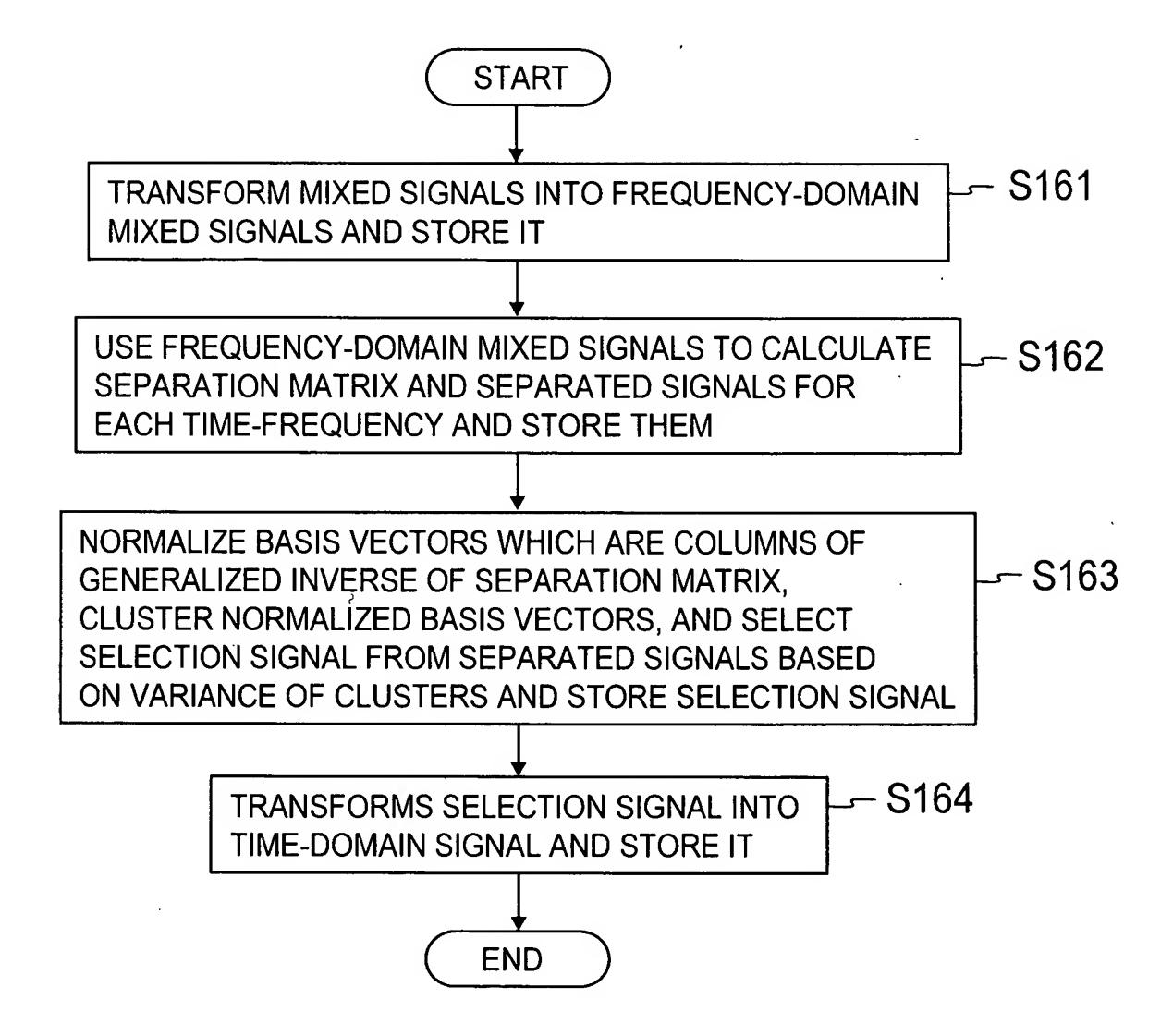
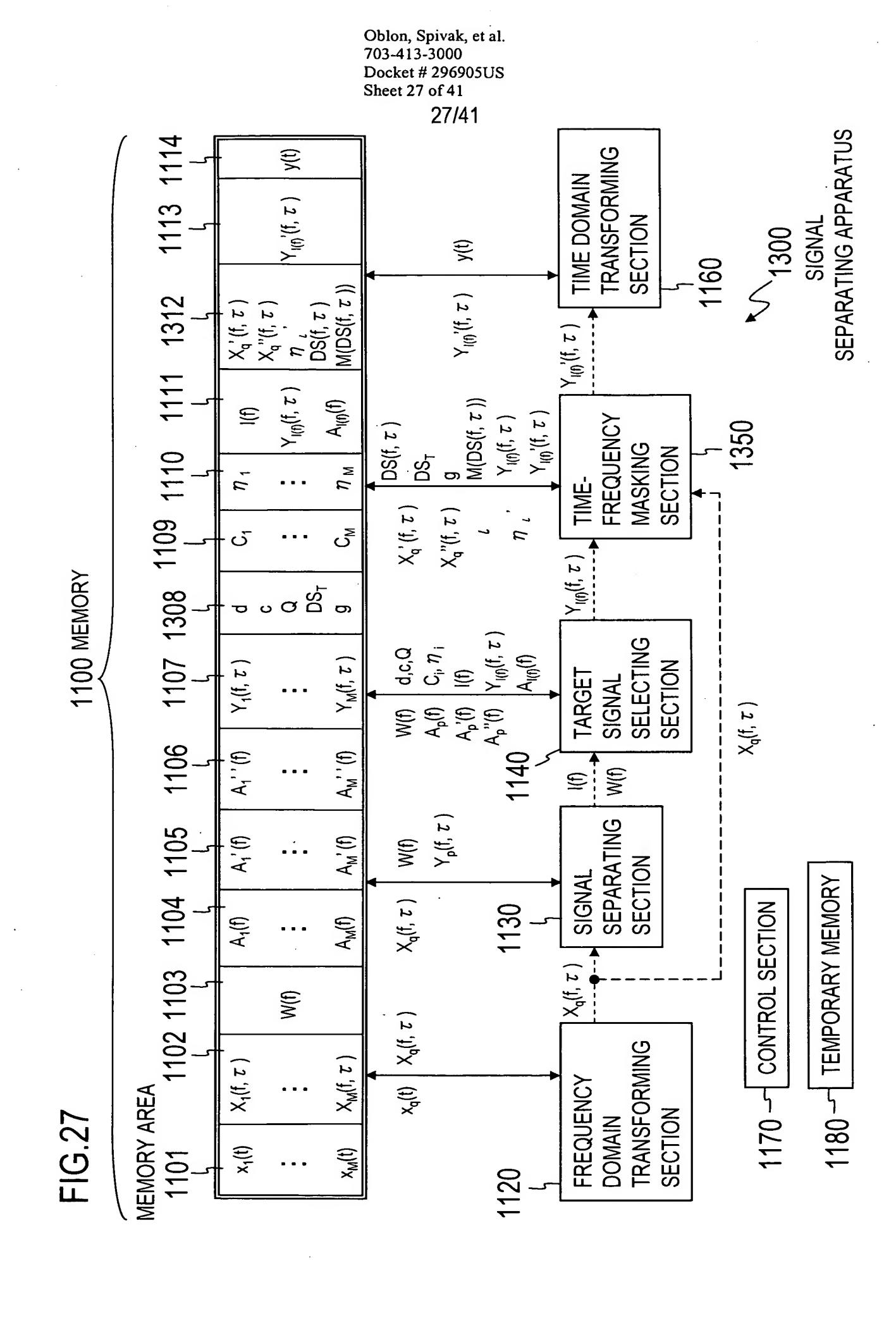


FIG.26

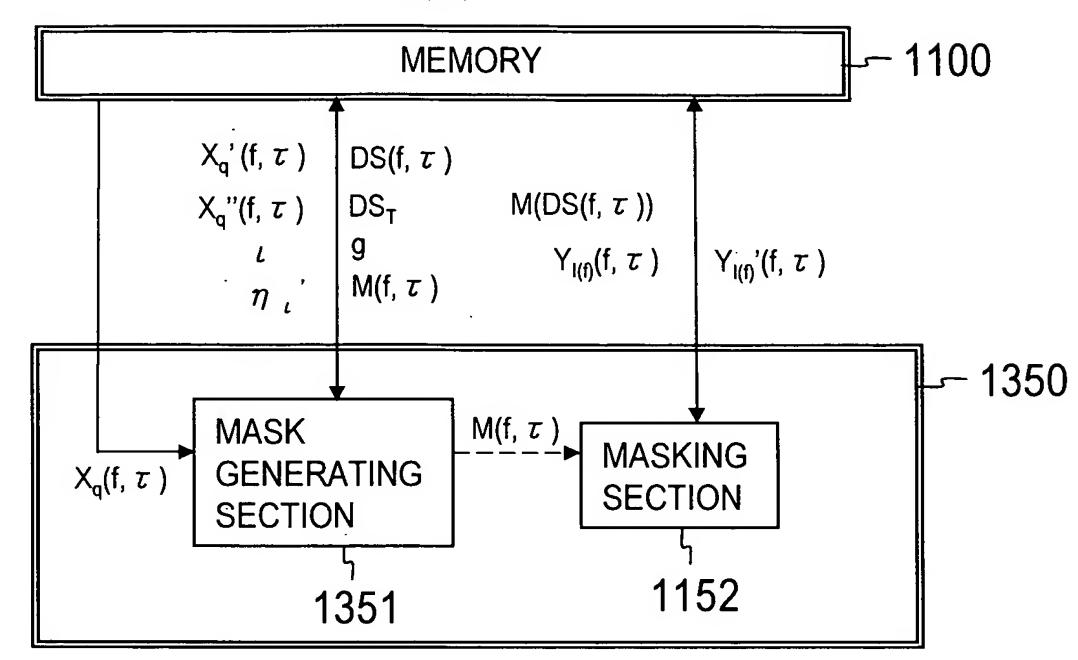




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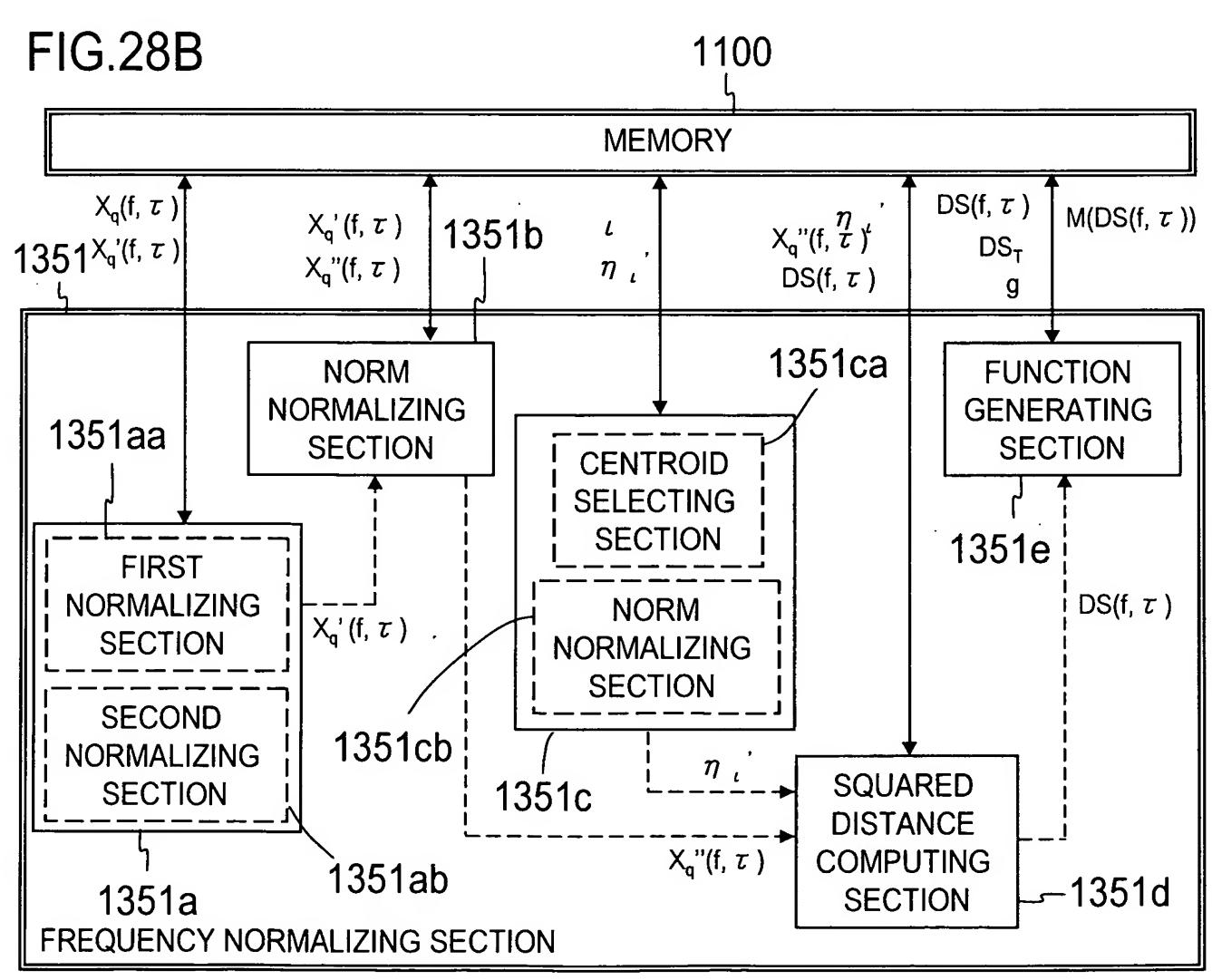
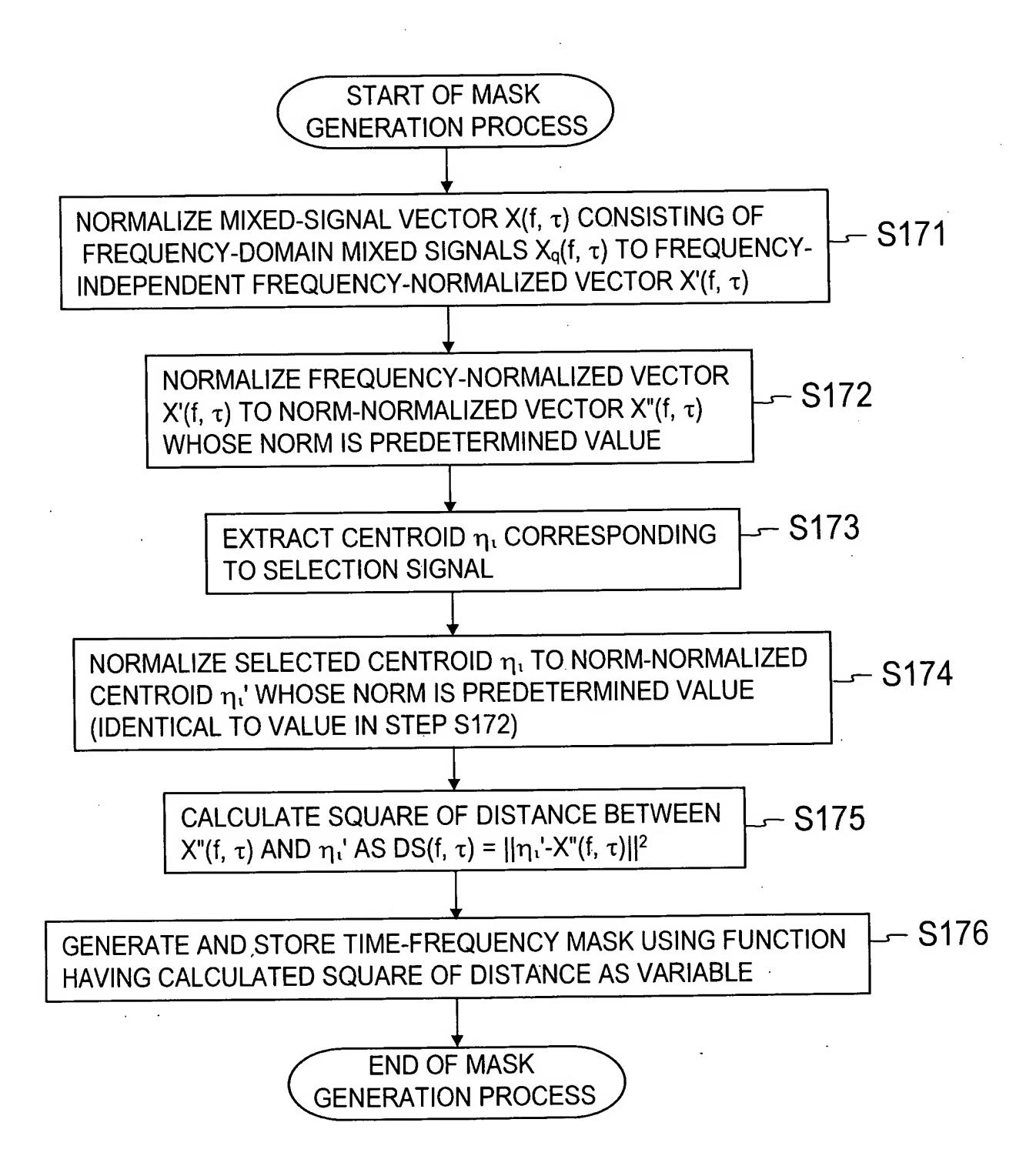


FIG.29



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FIG.30A

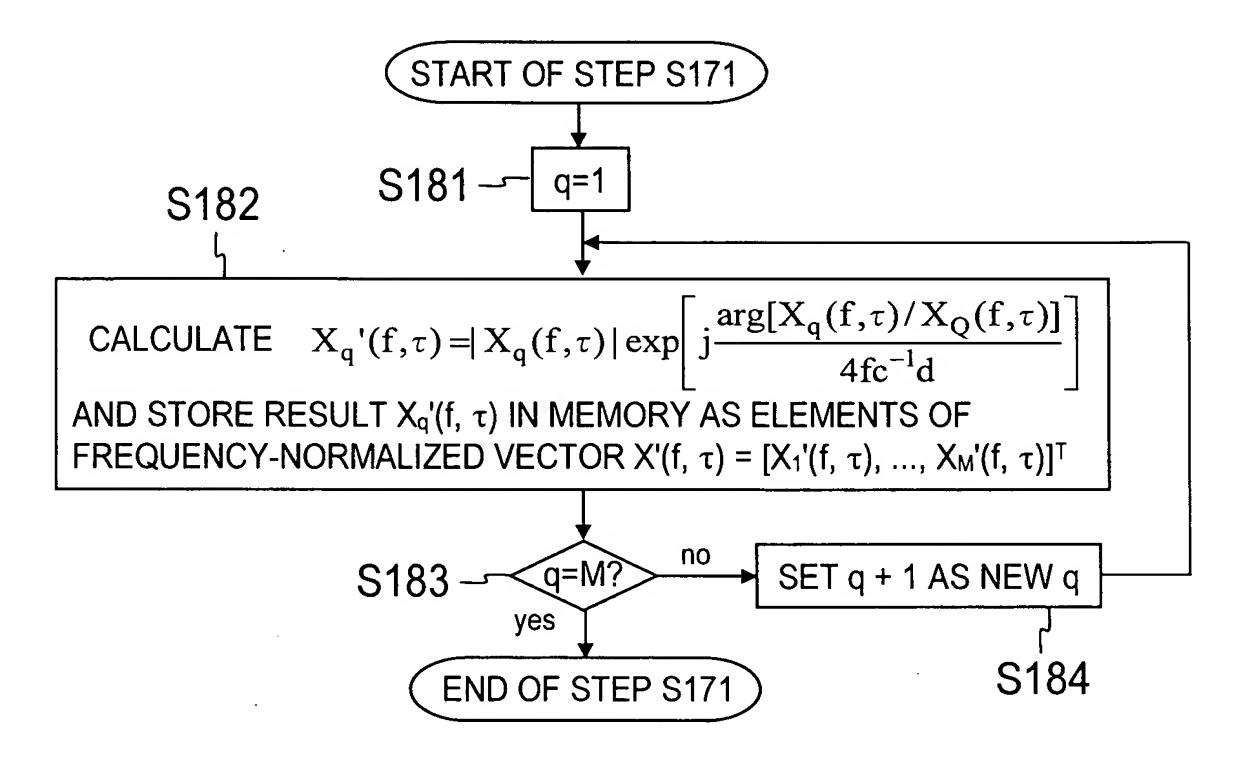


FIG.30B

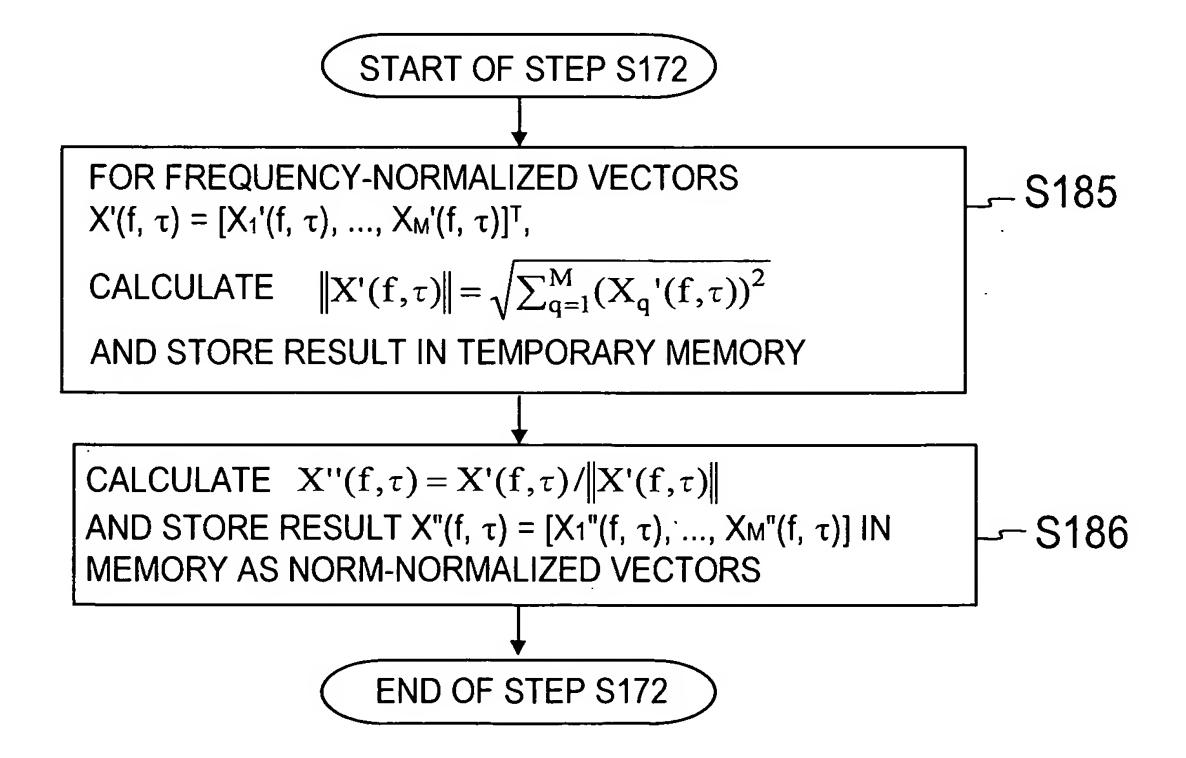


FIG.31A

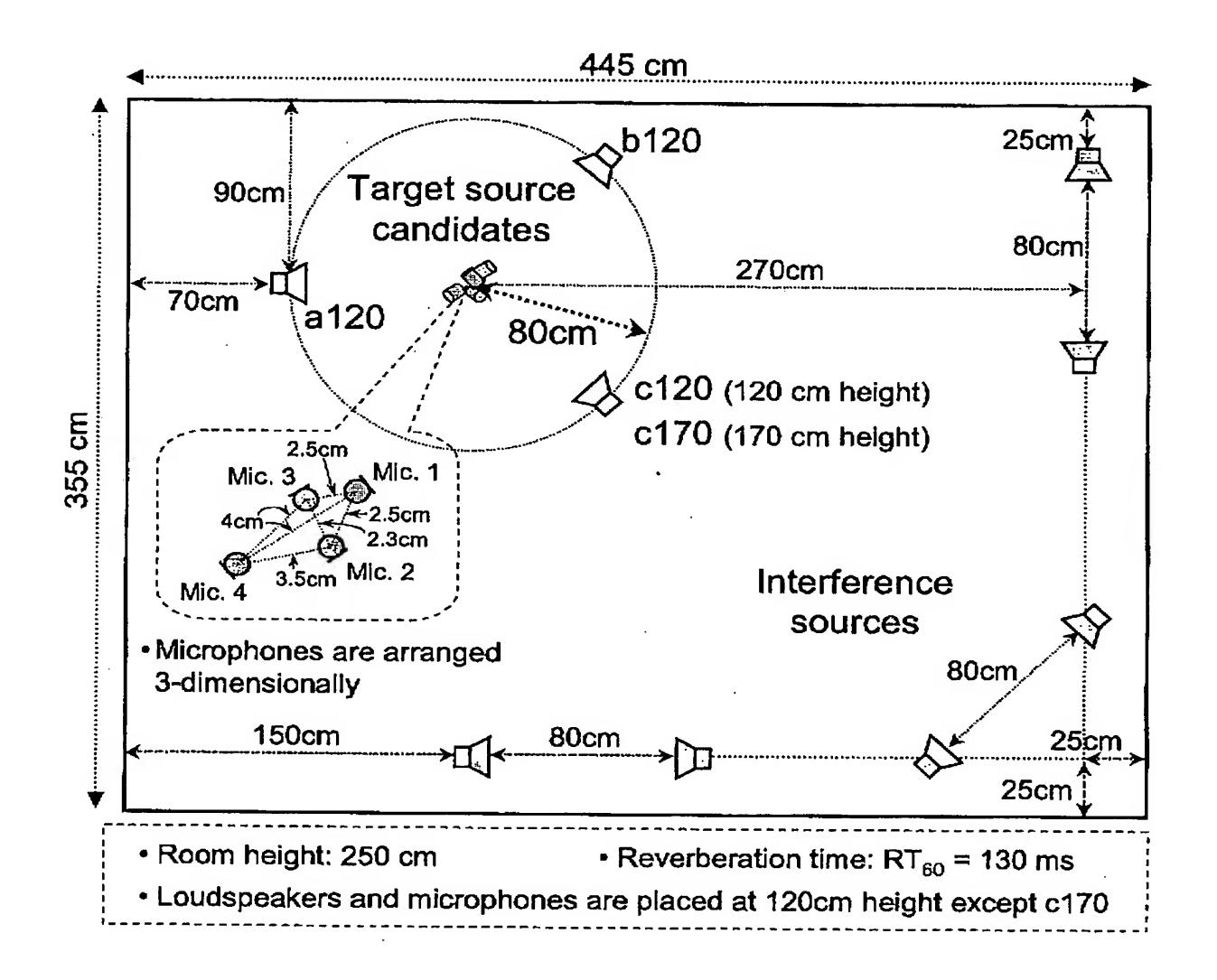
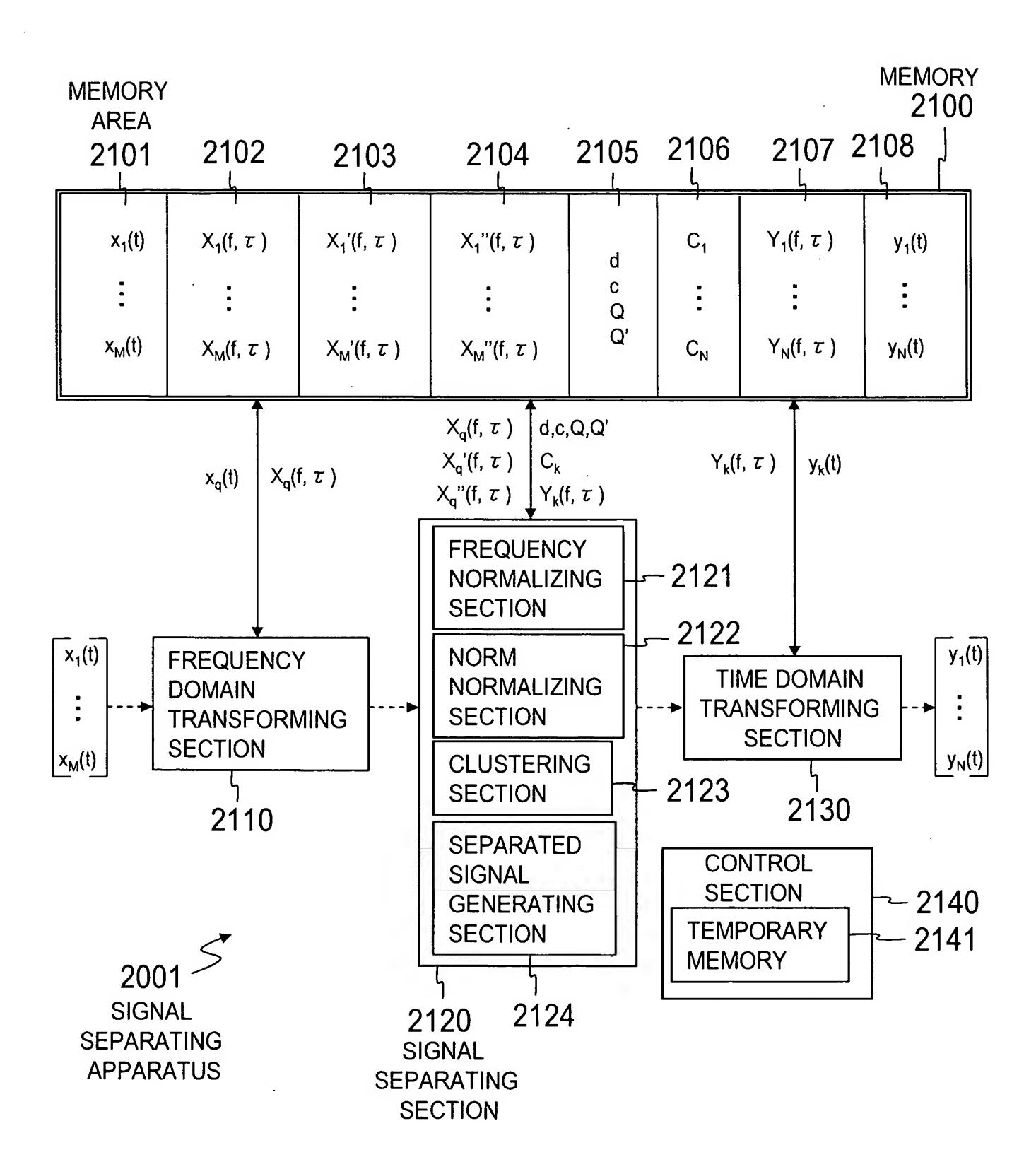


FIG.31B

TARGET SOUND POSITION	a120	b120	c120	c170
ICA ONLY	11.7dB	11.7dB	9.0dB	12.9dB
ICA WITH MASKING (0.375 π ,40)	15.5dB	14.3dB	12.4dB	16.7dB
ICA WITH MASKING (0.333 π ,20)	16.9dB	15.4dB	14.0dB	18.1dB
ICA WITH MASKING (0.25 π ,20)	19.7dB	17.9dB	16.9dB	20.8dB

FIG.32



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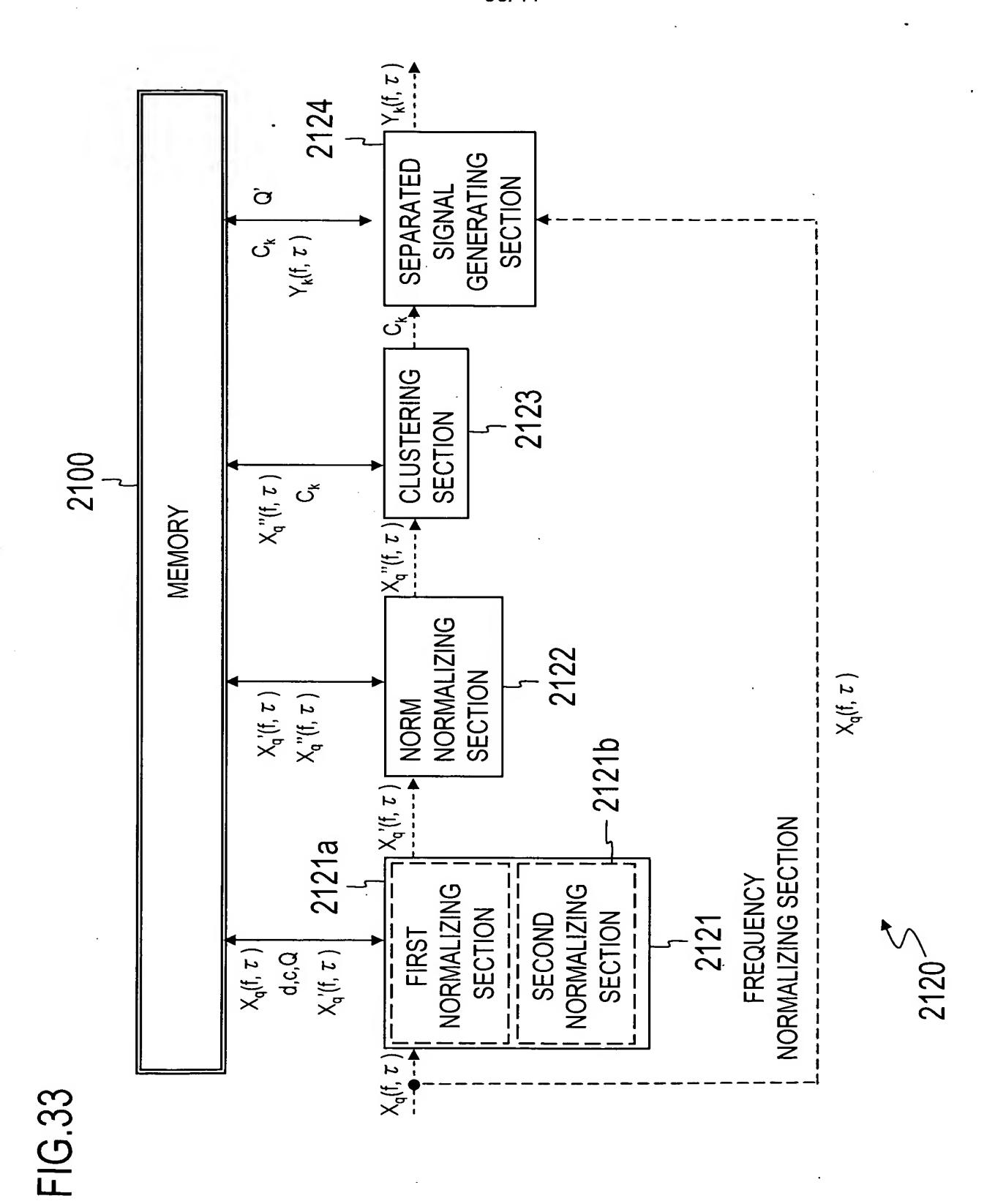
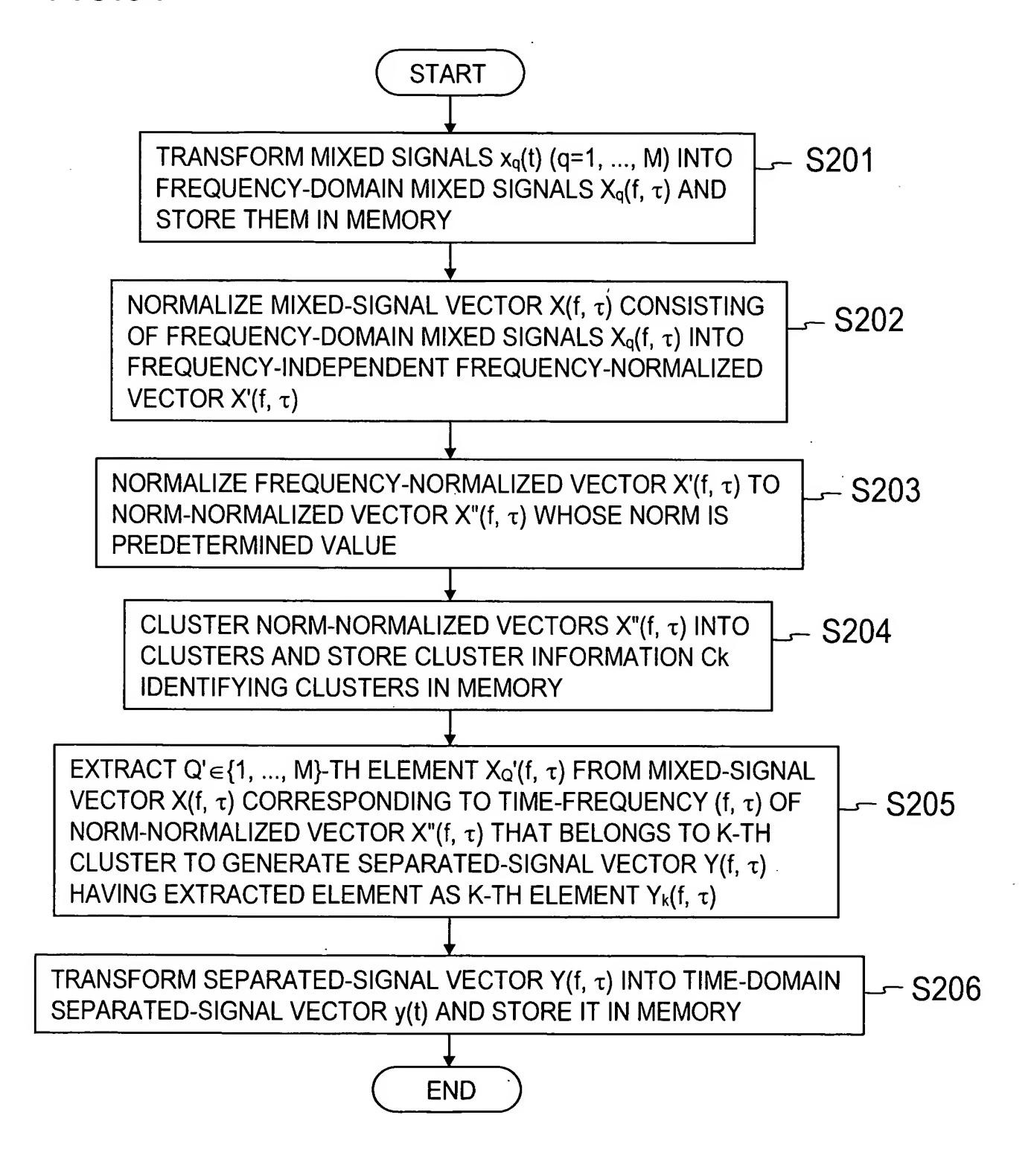


FIG.34



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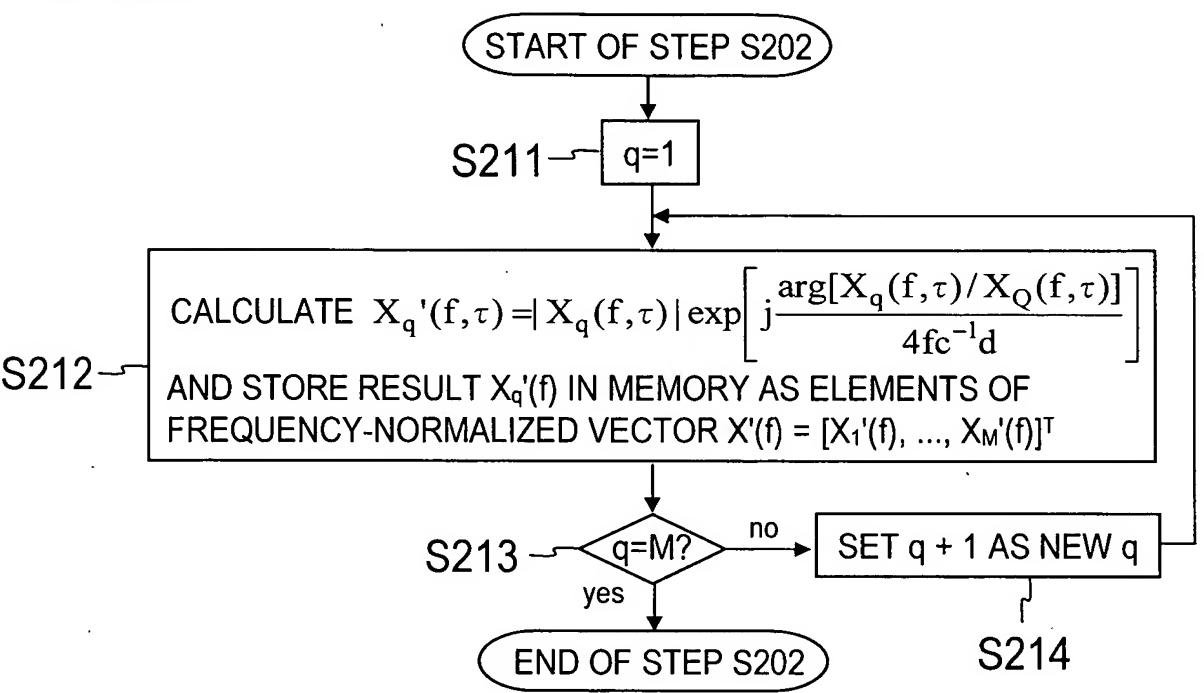


FIG.35B

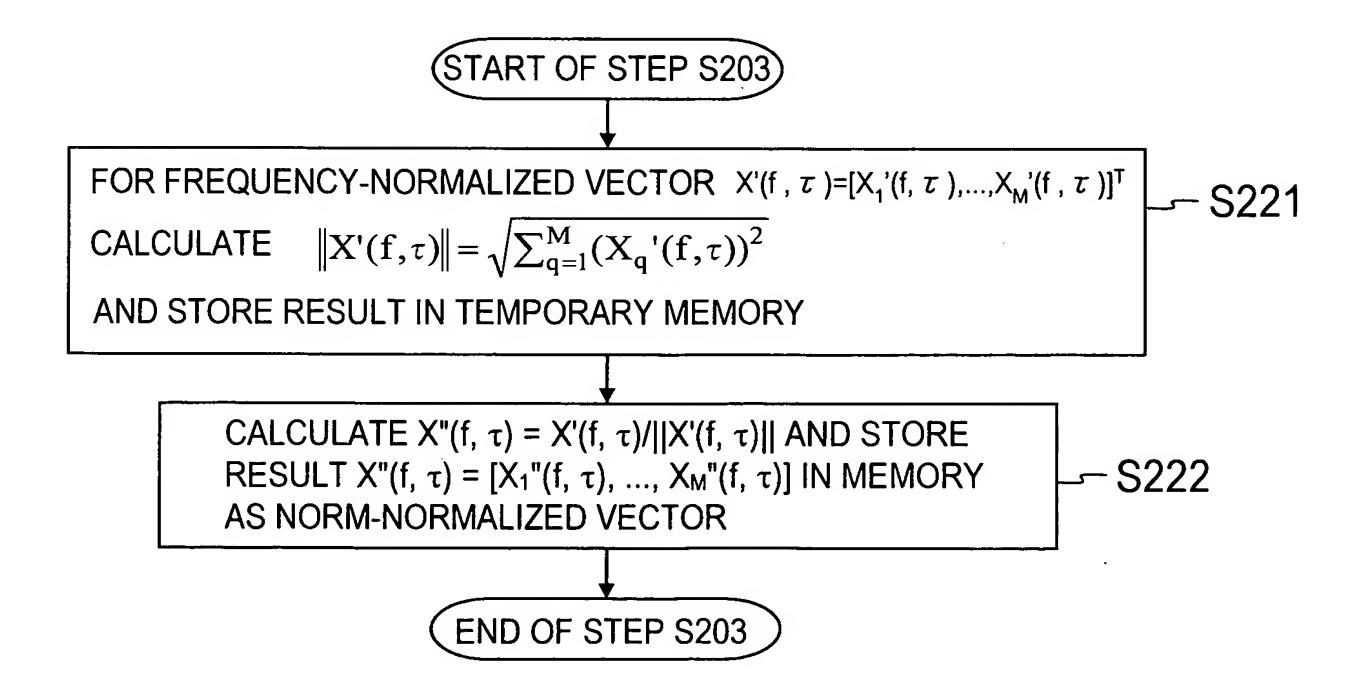
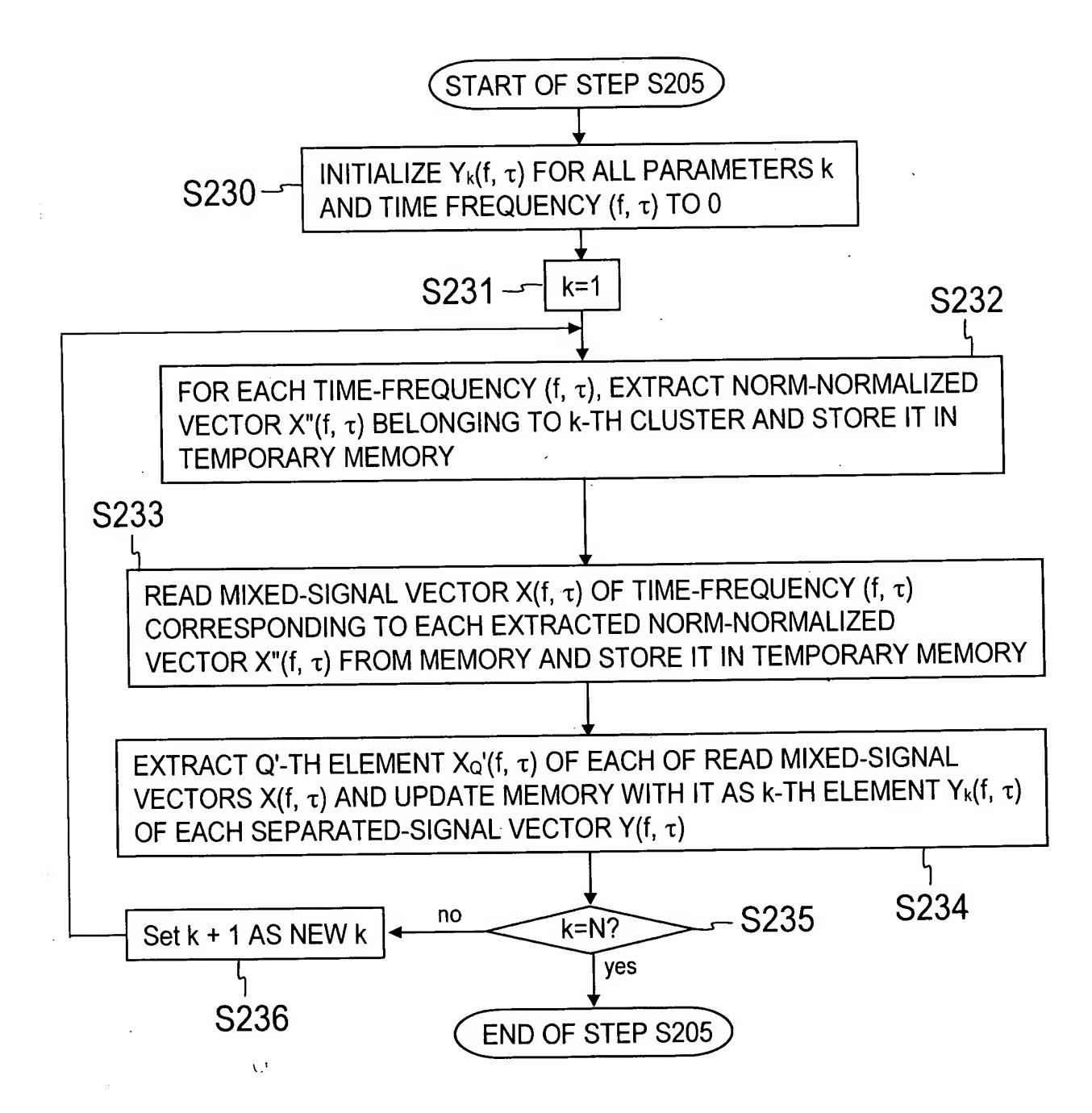


FIG.36



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FIG.37A

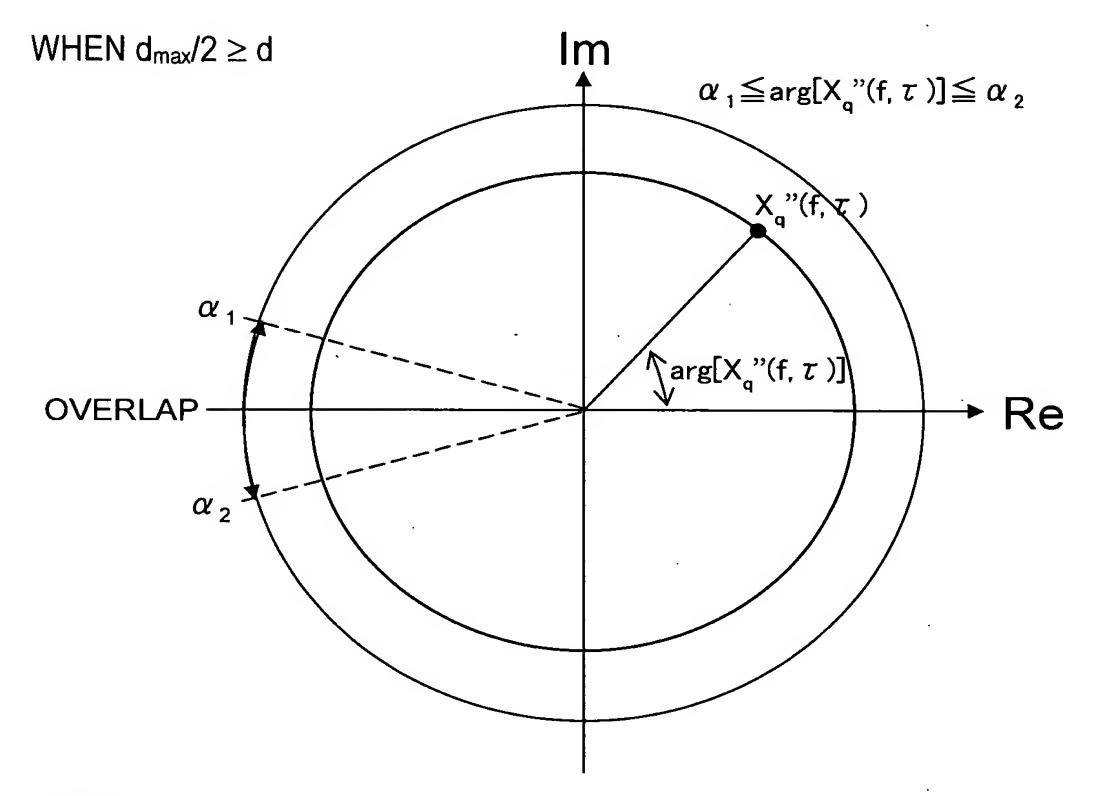
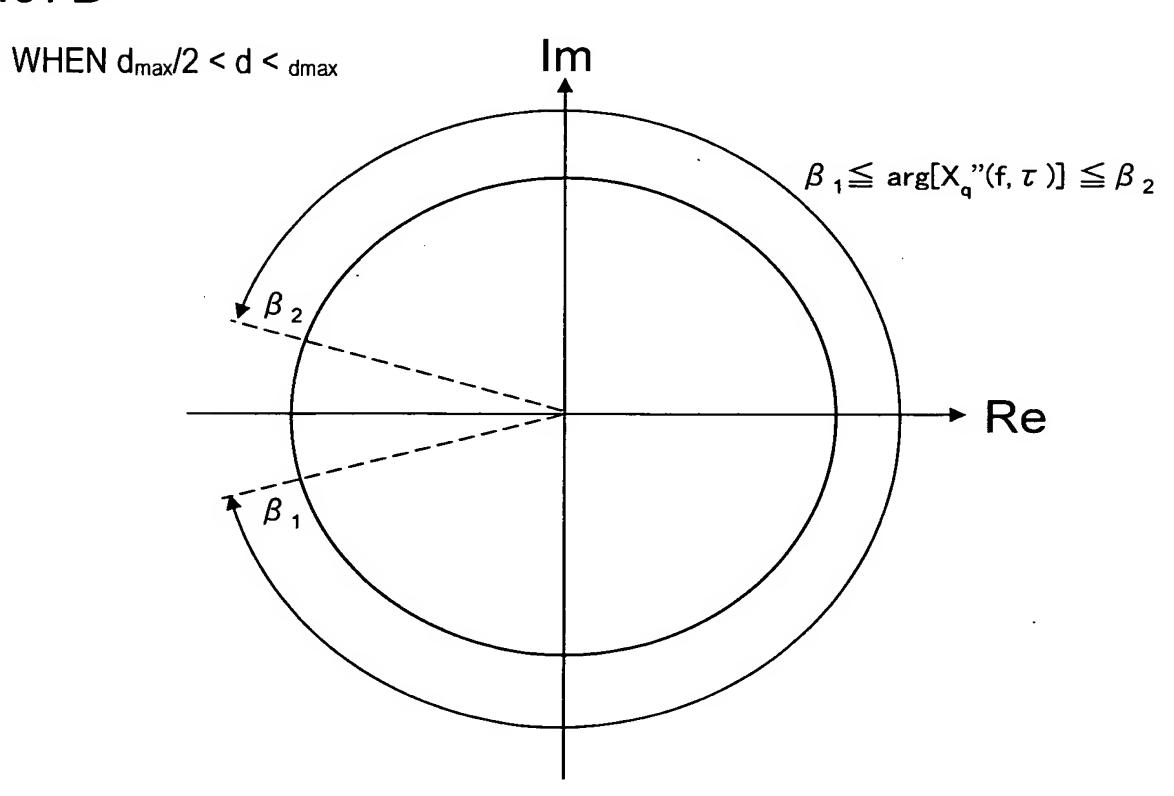


FIG.37B



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FIG.38A

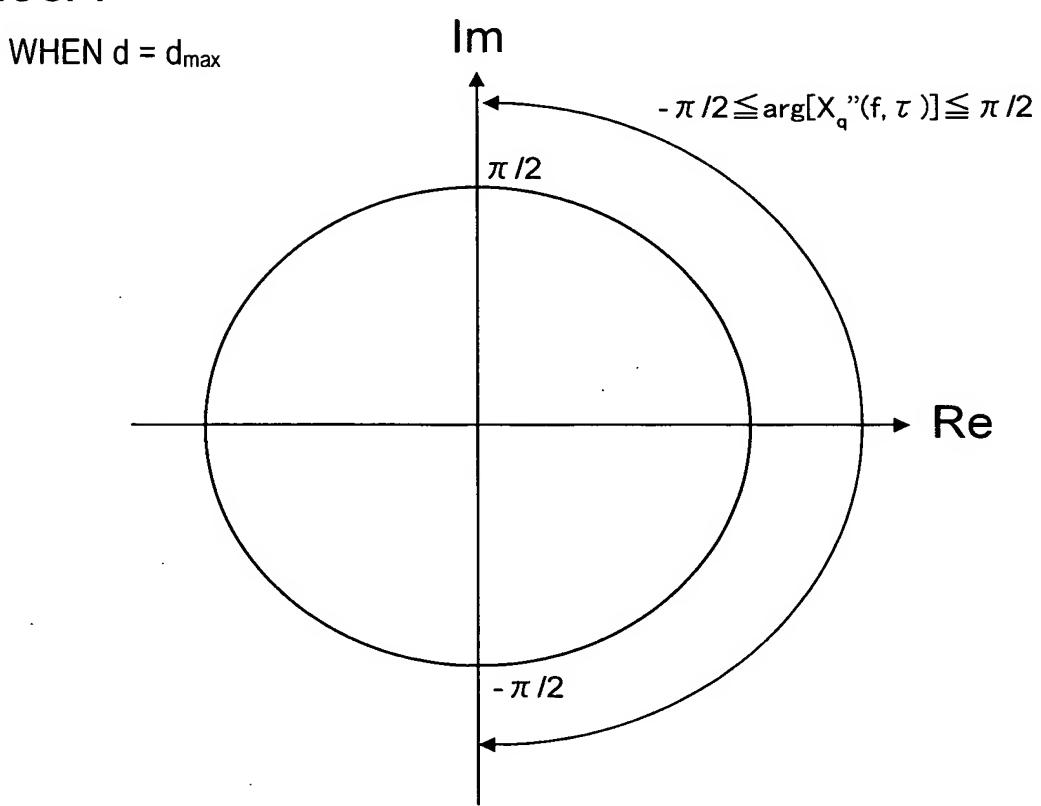


FIG.38B

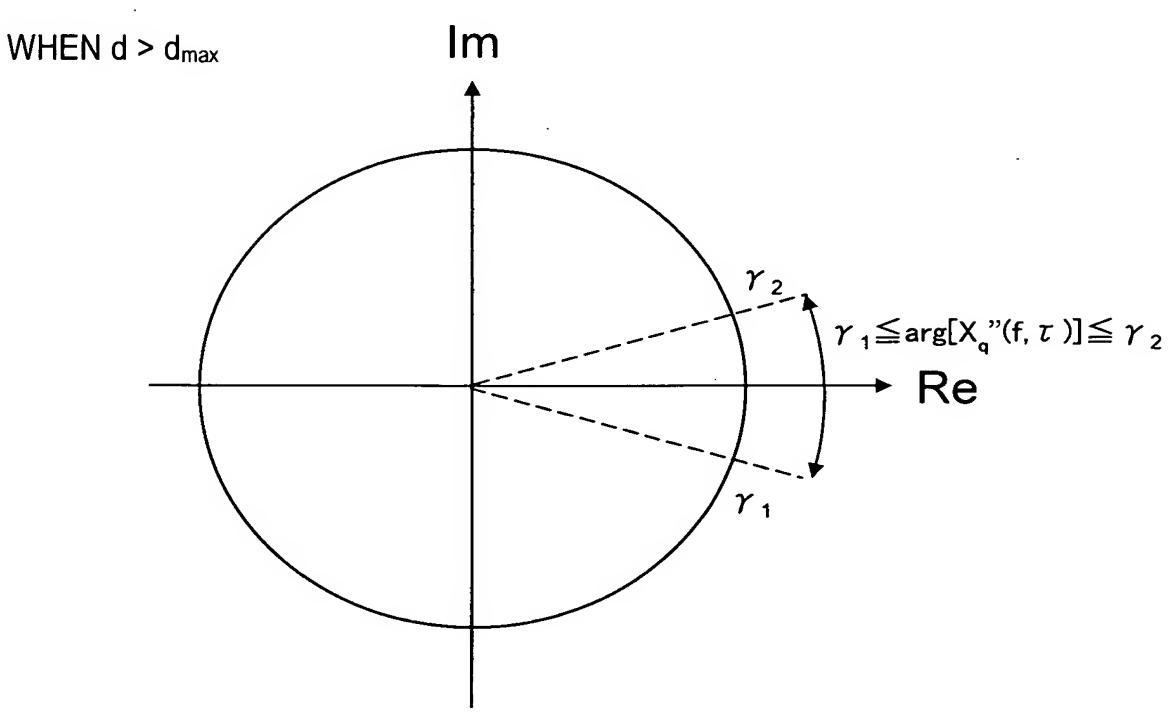
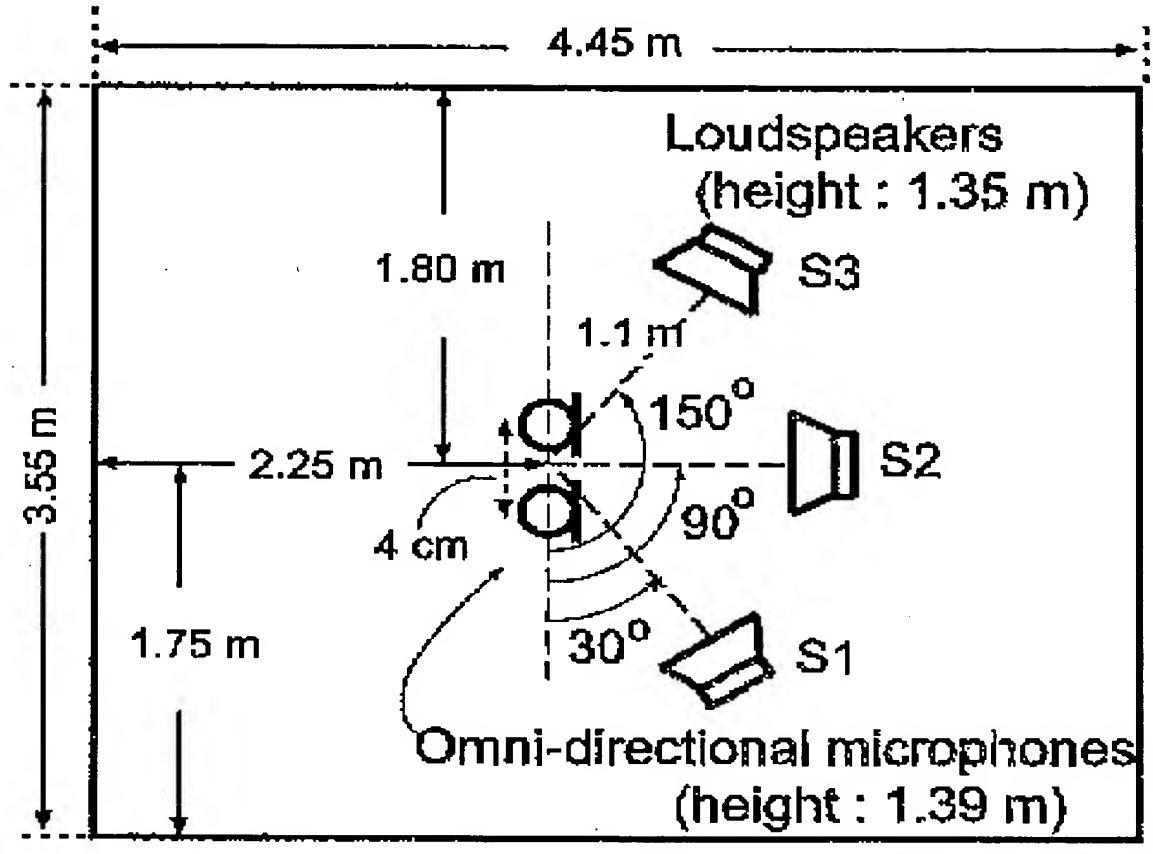


FIG.39A



Room height: 2.50 m

FIG.39B

EXPERIMENTAL RESULTS (in[dB])

	SIR ₁	SIR_2	SIR ₃
InputSIR	-5.2	-1.5	-2.9
DOA (Previous)	17.7	6.3	12.7
Normalized obser. vector (Proposed)	16.4	6.0	13.0

FIG.40A

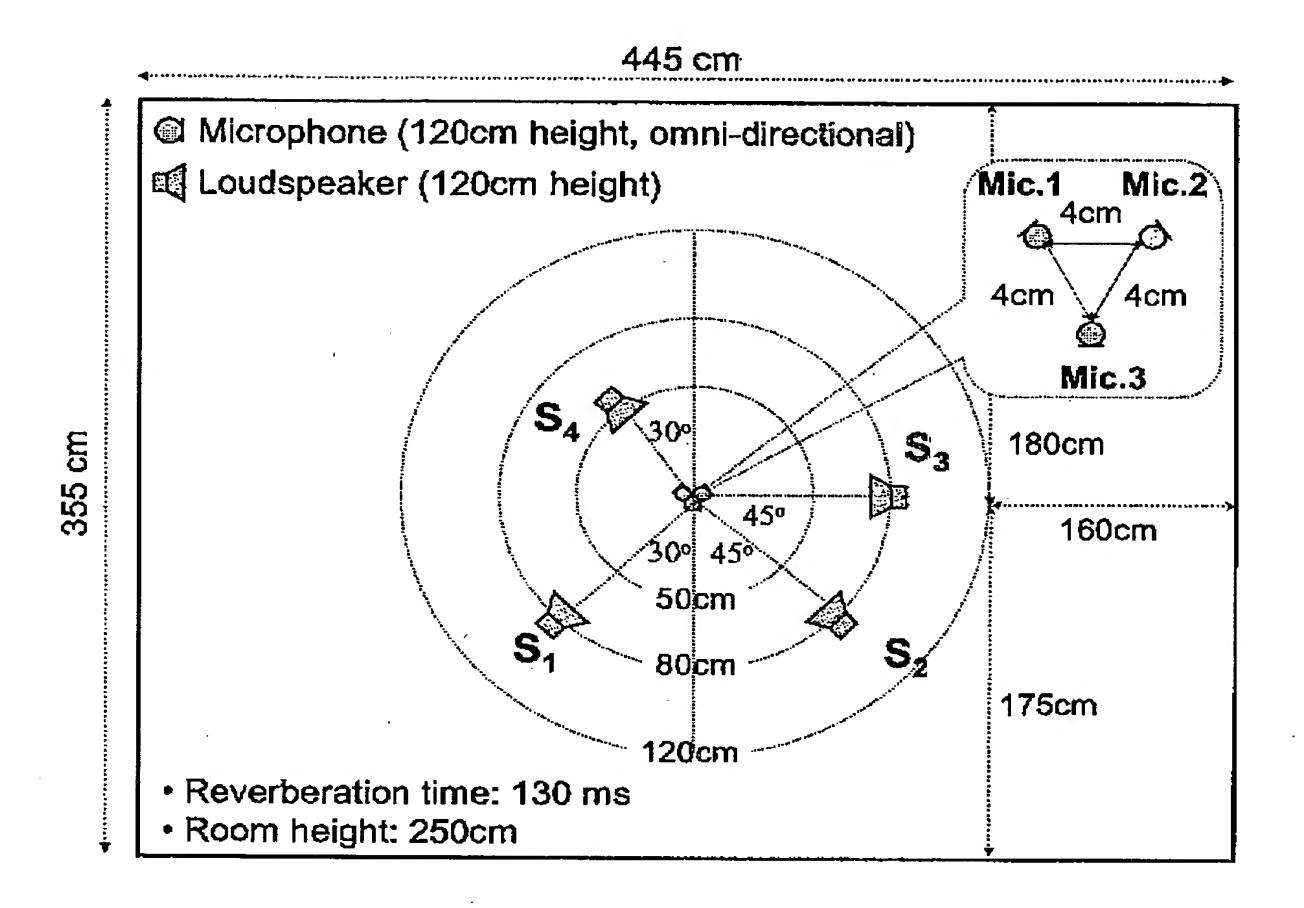


FIG.40B

EXPERIMENTAL RESULTS (in[dB])

	SIR_1	SIR_2	SIR_3	SIR ₄
InputSIR	-8.1	-6.0	-5.9	-0.8
Proposed	16.8	10.6	14.5	10.8

FIG.41A

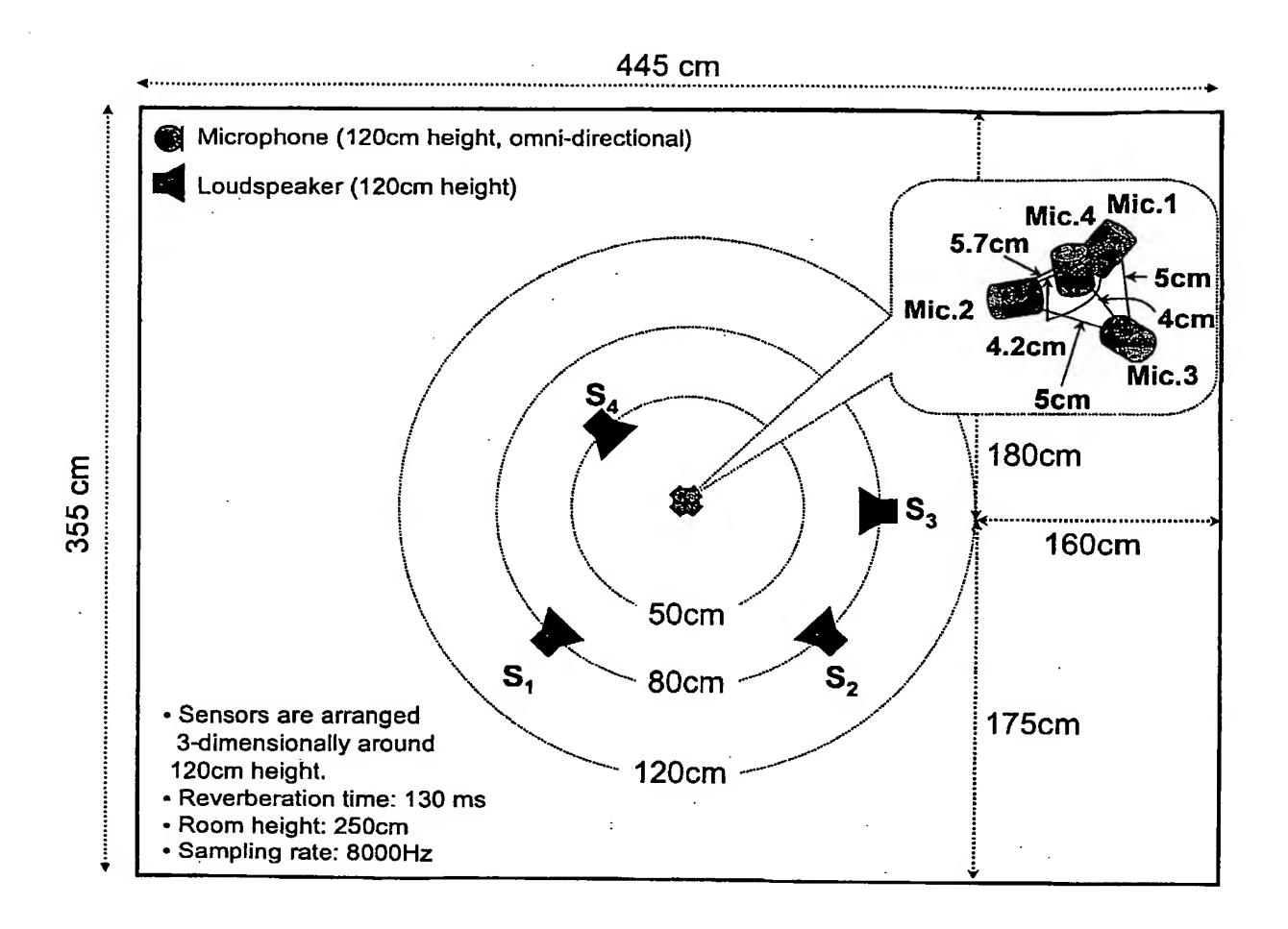


FIG.41B

EXPERIMENTAL RESULTS (in[dB])

	SIR ₁	SIR ₂	SIR ₃	SIR ₄
InputSIR	-8.1	-5.3	-6.6	-0.6
Proposed	17.8	15.6	9.6	15.7